

BOMA-HVAC 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.

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. Why is regular maintenance important for HVAC systems?**
 - A. It creates noise and disrupts occupants
 - B. It allows for annual equipment replacement
 - C. It extends the lifespan of the system, enhances efficiency, and prevents costly repairs
 - D. It requires less energy consumption
- 2. What is a potential outcome of an automated HVAC system?**
 - A. Increased energy costs
 - B. Inconsistent performance
 - C. Improved monitoring and control of systems
 - D. Less comfort for occupants
- 3. Relative humidity is essential in determining what aspect of air?**
 - A. The total air volume
 - B. The moisture capacity of the air
 - C. The density of the air
 - D. The temperature of the air
- 4. How does a pressurestat typically operate?**
 - A. By monitoring temperature
 - B. By detecting changes in humidity
 - C. By responding to changes in system pressure
 - D. By measuring system airflow
- 5. Air conditioning is concerned with controlling which four elements?**
 - A. Temperature, light, pressure, and circulation
 - B. Temperature, humidity, purity, and distribution of air
 - C. Temperature, sound, humidity, and clarity
 - D. Humidity, pressure, air flow, and temperature
- 6. In HVAC terminology, what does BTU represent?**
 - A. British Thermal Unit
 - B. Basic Thermal Unit
 - C. Balanced Thermal Unit
 - D. Built Thermal Unit

7. What is considered an excellent heat carrier because it ____?

- A. Has low specific heat
- B. Is inexpensive
- C. Has high specific heat
- D. Is readily available

8. The metering device is designed to ____.

- A. Increase pressure of refrigerant
- B. Control flow of refrigerant
- C. Reduce heat loss
- D. Enhance compressor efficiency

9. A pressurestat responds to ____.

- A. Temperature changes
- B. System pressure
- C. Humidity levels
- D. Voltage fluctuations

10. What is the primary function of an HVAC 'chiller'?

- A. To distribute heated air throughout a building
- B. To cool air or fluid in large commercial buildings
- C. To filter air for indoor air quality
- D. To circulate hot water for heating

Answers

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

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Explanations

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1. Why is regular maintenance important for HVAC systems?

- A. It creates noise and disrupts occupants
- B. It allows for annual equipment replacement
- C. It extends the lifespan of the system, enhances efficiency, and prevents costly repairs**
- D. It requires less energy consumption

Regular maintenance of HVAC systems is crucial because it extends the lifespan of the equipment, enhances operational efficiency, and helps prevent costly repairs. When HVAC systems are properly maintained, they operate more effectively, providing consistent temperature control and improving indoor air quality. Regular checks and services can identify and remedy potential issues before they escalate into significant problems that require expensive repairs or replacements. This proactive approach not only saves money over time but also ensures that the system runs efficiently, which can lead to lower energy consumption and reduced utility bills. Moreover, preventive maintenance can help in optimizing the performance of the system, ensuring that it operates at peak efficiency. This not only benefits the system's longevity but also contributes positively to the comfort of the occupants and the overall energy management in the building.

2. What is a potential outcome of an automated HVAC system?

- A. Increased energy costs
- B. Inconsistent performance
- C. Improved monitoring and control of systems**
- D. Less comfort for occupants

An automated HVAC system offers the significant benefit of improved monitoring and control of systems. This advancement allows facility managers to track performance metrics, maintain optimal temperature settings, and adjust system operations in real time based on various factors, such as occupancy levels and external weather conditions. Consequently, automated systems can optimize energy use, enhance operational efficiency, and ensure that comfort levels are maintained for building occupants. By utilizing sensors, smart thermostats, and data analytics, an automated HVAC system can provide precise control and responsiveness that manual systems typically lack. This leads to better overall comfort for users and a more efficient management of energy resources. Improved monitoring also aids in identifying mechanical issues before they result in system failures, further enhancing system reliability and occupant satisfaction.

3. Relative humidity is essential in determining what aspect of air?

- A. The total air volume
- B. The moisture capacity of the air**
- C. The density of the air
- D. The temperature of the air

Relative humidity is crucial for determining the moisture capacity of the air because it measures the amount of moisture present in the air relative to the maximum amount of moisture that the air can hold at a given temperature. When relative humidity is high, the air is approaching its saturation point, meaning it cannot hold much more moisture. Conversely, when relative humidity is low, there is capacity for more moisture in the air. Understanding this concept is important for HVAC professionals as it directly affects comfort levels, potential for condensation, and the efficiency of heating and cooling systems. The other choices do not directly correlate with the implication of relative humidity. For instance, while total air volume is related to the size of the space and pressure conditions, it doesn't account for moisture levels. Similarly, density is influenced by temperature and pressure rather than moisture content, and temperature itself can be a factor in relative humidity calculations but is not determined by it. Thus, relative humidity's primary role lies in indicating the moisture capacity of the air.

4. How does a pressurestat typically operate?

- A. By monitoring temperature
- B. By detecting changes in humidity
- C. By responding to changes in system pressure**
- D. By measuring system airflow

A pressurestat operates by responding to changes in system pressure. It is a crucial device used in HVAC systems to monitor the pressure of fluids or gases within a system. When the pressure fluctuates beyond predetermined thresholds, the pressurestat activates or deactivates components of the HVAC system to maintain optimal operating conditions. For example, if the pressure in a heating or cooling system drops below a certain level, the pressurestat can trigger the system to increase pressure, ensuring efficient operation and preventing potential damage. This device is particularly vital in systems where maintaining specific pressure levels is essential for safety and performance, such as in boilers or chillers. The other options focus on different aspects of environmental control. Monitoring temperature is typically the function of thermostats, detecting changes in humidity relates to humidistats, and measuring system airflow addresses airflow sensors, none of which pertain to the pressure regulation that a pressurestat specifically manages.

5. Air conditioning is concerned with controlling which four elements?

- A. Temperature, light, pressure, and circulation
- B. Temperature, humidity, purity, and distribution of air**
- C. Temperature, sound, humidity, and clarity
- D. Humidity, pressure, air flow, and temperature

Air conditioning primarily focuses on creating a comfortable indoor environment by regulating specific factors, and the four elements of temperature, humidity, purity, and distribution of air are crucial in this process. Temperature refers to the thermal comfort of occupants within a space. It is important for maintaining a pleasant and suitable environment. Humidity is equally important, as it affects both comfort levels and the potential for mold growth or other moisture-related issues. Purity of air concerns maintaining good indoor air quality by removing contaminants and ensuring that the air is clean and healthy to breathe. Finally, the distribution of air ensures that conditioned air circulates effectively throughout the space, providing consistent comfort and avoiding hot or cold spots. In contrast, other options may include elements that are less relevant or unrelated to the primary functions of air conditioning. For example, sound and clarity are more associated with acoustics rather than the climate control functions of an HVAC system.

6. In HVAC terminology, what does BTU represent?

- A. British Thermal Unit**
- B. Basic Thermal Unit
- C. Balanced Thermal Unit
- D. Built Thermal Unit

BTU stands for British Thermal Unit, which is a standard unit of measurement used in the HVAC industry to quantify the amount of heat energy. Specifically, one BTU is defined as the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit. Understanding BTU is crucial because it helps in assessing the heating and cooling capacity of HVAC systems. This measurement allows HVAC professionals to size equipment appropriately for various applications, ensuring efficiency and comfort in climate control systems. The other terms provided in the choices do not accurately represent this widely recognized measurement in HVAC terminology. Hence, they are not applicable in this context.

7. What is considered an excellent heat carrier because it ____?

- A. Has low specific heat
- B. Is inexpensive
- C. Has high specific heat**
- D. Is readily available

Water is commonly considered an excellent heat carrier primarily due to its high specific heat capacity. This property allows water to absorb and store large amounts of thermal energy without experiencing a significant change in temperature. When a substance has a high specific heat, it can efficiently regulate temperatures in HVAC systems by absorbing excess heat during warm periods and releasing it when temperatures drop. This characteristic makes water especially effective in heating and cooling applications, as it enables the system to maintain a more stable temperature and improve overall energy efficiency. While factors such as cost, availability, and specific heat are important in evaluating a heat carrier, the high specific heat of water is what fundamentally contributes to its effectiveness in thermal management systems.

8. The metering device is designed to ____.

- A. Increase pressure of refrigerant
- B. Control flow of refrigerant**
- C. Reduce heat loss
- D. Enhance compressor efficiency

The correct choice focuses on the primary function of the metering device in a refrigerant system. The metering device regulates the flow of refrigerant into the evaporator, ensuring that the system operates effectively and efficiently. By controlling this flow, it can help maintain the correct pressure and temperature in the evaporator, facilitating optimal heat exchange between the refrigerant and the surrounding environment. This function is crucial as it impacts the overall performance of the HVAC system, helping to balance the thermal load and maintain desired environmental conditions within a space. While some other functions listed might relate to the overall operation of a refrigerant system, they do not accurately reflect the specific role of the metering device. For example, increasing the pressure of refrigerant is a task typically associated with the compressor, while reducing heat loss is more related to insulation and building design rather than the metering device itself. Enhancing compressor efficiency can be a broader system goal but is not the direct function of the metering device. Therefore, the chosen answer correctly captures the purpose of the metering device in controlling the flow of refrigerant within the HVAC system.

9. A pressurestat responds to ____.

- A. Temperature changes
- B. System pressure**
- C. Humidity levels
- D. Voltage fluctuations

A pressurestat is a type of control device that is specifically designed to monitor and respond to changes in system pressure. It operates by detecting the pressure within a system, such as HVAC or refrigeration systems, and activating or deactivating components based on preset pressure thresholds. This functionality is critical in ensuring that the system operates within safe and efficient pressure parameters, which can help prevent malfunctions or inefficiencies. The other options relate to different types of sensors or controls. Temperature changes are typically monitored by thermostats, while humidity levels are managed by hygrometers or humidistats. Voltage fluctuations are generally monitored by devices intended for electrical management. Thus, a pressurestat's primary role is to respond to system pressure, making it essential for maintaining the operational integrity of pressure-dependent systems.

10. What is the primary function of an HVAC 'chiller'?

- A. To distribute heated air throughout a building
- B. To cool air or fluid in large commercial buildings**
- C. To filter air for indoor air quality
- D. To circulate hot water for heating

The primary function of an HVAC chiller is to cool air or fluid in large commercial buildings. Chillers operate by removing heat from a specified medium, typically water, which is then circulated throughout the building to provide cooling. This process involves a refrigeration cycle, where the chiller absorbs heat from the water and dissipates it through a condenser, effectively lowering the temperature of the fluid. In larger commercial settings, chillers are essential for maintaining comfortable indoor temperatures, especially in environments that generate significant heat or require strict climate control, such as data centers or manufacturing facilities. This makes them a critical component of the HVAC system in ensuring efficient climate regulation throughout extensive and complex facilities. The other options describe functions related to different HVAC components or systems, but they do not pertain to the specific role of a chiller in cooling processes.

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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://bomahvac.examzify.com>

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

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