

# NATE HVAC Support Technician Practice Test (Sample)

## Study Guide



**Everything you need from our exam experts!**

**Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.**

**ALL RIGHTS RESERVED.**

**No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.**

**Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.**

**SAMPLE**

# Table of Contents

<b>Copyright</b> .....	<b>1</b>
<b>Table of Contents</b> .....	<b>2</b>
<b>Introduction</b> .....	<b>3</b>
<b>How to Use This Guide</b> .....	<b>4</b>
<b>Questions</b> .....	<b>5</b>
<b>Answers</b> .....	<b>8</b>
<b>Explanations</b> .....	<b>10</b>
<b>Next Steps</b> .....	<b>16</b>

SAMPLE

# 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

SAMPLE

- 1. Which is a simple machine used to lift and move heavy items?**
  - A. Inclined plane**
  - B. Wheel and axle**
  - C. Lever**
  - D. Pulley**
  
- 2. How are flexible ducts designed?**
  - A. Contain a foam core with no jacket**
  - B. Have an insulated outer jacket surrounding a plastic film coil spring inner liner.**
  - C. Use bare metal with no insulation**
  - D. Are made of solid concrete**
  
- 3. How much must the tape overlap the shiplap seam on both sides when applying aluminum foil tape over a stapled shiplap seam?**
  - A. At least one inch**
  - B. No overlap**
  - C. Two inches**
  - D. Three-quarters inch**
  
- 4. What is the minimum width for pressure-sensitive aluminum foil tape?**
  - A. 2 in.**
  - B. 2 ½ in.**
  - C. 3 in.**
  - D. 4 in.**
  
- 5. Which safety protocol is listed in electrical maintenance?**
  - A. Lockout/tagout procedures**
  - B. Safety equipment**
  - C. Clean and tighten connections**
  - D. Avoid water**

- 6. If securing ductboard to a metal, what screw should you use?**
- A. #8 wood screws with hex nuts**
  - B. Nails and washers**
  - C. Machine screws with lock washers**
  - D. #10 sheet metal screws along with 2 1/2 square washer**
- 7. What instrument is used to measure temperature?**
- A. Barometer**
  - B. Thermometer**
  - C. Hygrometer**
  - D. Anemometer**
- 8. Which statement best describes simple machines?**
- A. They are the smaller mechanisms that make up all larger machines, and they can change the direction or magnitude of a force**
  - B. They are devices that generate energy**
  - C. They are only used to measure weight**
  - D. They cannot alter force**
- 9. Other guidelines to be observed when sealing ductboard include: which of the following is a correct guideline?**
- A. Preheat the tape if either the aluminum foil tape or surface is below 50°F at the time of application**
  - B. Tape width must be at least 4 inches for all tapes**
  - C. Heat-activated tape does not require heating after application**
  - D. Tape width for pressure-sensitive tape must be at least 1 inch**
- 10. Where should diffusers generally be placed in areas that need to be cooled?**
- A. On the floor**
  - B. In the ceiling**
  - C. Near the windows**
  - D. High in the wall so that the cooler air will move downward and increase natural circulation**

## Answers

SAMPLE

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

SAMPLE

## **Explanations**

SAMPLE

**1. Which is a simple machine used to lift and move heavy items?**

- A. Inclined plane**
- B. Wheel and axle**
- C. Lever**
- D. Pulley**

A lever works by using a rigid bar that pivots around a fixed point called the fulcrum. When you push on one end, the bar rotates and lifts the load on the other end. The key is the relative distances from the fulcrum: if your effort arm is longer than the load arm, you get a mechanical advantage, meaning you can lift heavier items with less input force. That direct ability to multiply your force makes the lever the classic tool for lifting and moving heavy loads. Other options change how force is applied or how the load is moved (sliding up a slope, rolling with a wheel and axle, or changing the direction with a pulley), but the lever is the most straightforward device for increasing lift with less effort.

**2. How are flexible ducts designed?**

- A. Contain a foam core with no jacket**
- B. Have an insulated outer jacket surrounding a plastic film coil spring inner liner.**
- C. Use bare metal with no insulation**
- D. Are made of solid concrete**

Flexible ducts are designed to carry air while staying bendable, so they need both a contained airflow path and thermal protection. The typical layout places a plastic film inner liner that contains the air, supported by a coil spring to keep the duct from collapsing when it's bent. Around that inner assembly sits an insulated outer jacket, which minimizes heat transfer and helps prevent condensation on the duct surface. This combination—an insulated outer jacket surrounding a plastic film inner liner with a coil spring for support—provides the right balance of flexibility, airflow containment, and thermal protection. Other options either omit insulation, use an inappropriate core, or rely on materials not suitable for HVAC ductwork, making them unsuitable for flexible ducts.

**3. How much must the tape overlap the shiplap seam on both sides when applying aluminum foil tape over a stapled shiplap seam?**

- A. At least one inch**
- B. No overlap**
- C. Two inches**
- D. Three-quarters inch**

The key idea is to create a reliable seal by giving the tape a solid margin beyond the seam. When you apply aluminum foil tape over a stapled shiplap seam, you want the tape to extend past the seam on both sides so the adhesive can grip clean surfaces and cover the staples. This overlap helps prevent gaps where air or moisture could travel and reduces the chance of the tape peeling at the edges. A one-inch overlap on each side provides enough coverage and bond without wasting material. Less than that can leave the seam exposed or prone to peeling, while more overlap isn't necessary for this purpose.

**4. What is the minimum width for pressure-sensitive aluminum foil tape?**

- A. 2 in.**
- B. 2 1/2 in.**
- C. 3 in.**
- D. 4 in.**

Sealing duct joints with pressure-sensitive aluminum foil tape needs enough width to fully cover the seam and provide a solid overlap onto clean duct surfaces. A width of 2 1/2 inches gives enough surface area to span typical seams and create a reliable edge-to-edge bond, reducing the chance of air leaks or tape peeling under pressure. Using narrower tape can leave the seam inadequately covered, while wider tape is fine but not the minimum required. So, 2 1/2 inches is the smallest width that reliably meets the sealing needs for standard HVAC duct joints.

**5. Which safety protocol is listed in electrical maintenance?**

- A. Lockout/tagout procedures**
- B. Safety equipment**
- C. Clean and tighten connections**
- D. Avoid water**

Maintaining clean and tightened electrical connections is a safety practice because the quality of those connections directly affects electrical safety. Loose or dirty terminals increase contact resistance, which leads to excess heating, potential arcing, and the risk of equipment damage or fire. By cleaning the contacts and torquing or tightening them to the proper specification, you restore a solid, low-resistance path and reduce the likelihood of dangerous faults when the system is energized or under load. Lockout/tagout procedures are also essential for safe work by ensuring energy is isolated before service, but the action described here focuses on preventing hazards that come from poor connection quality. Wearing safety equipment and keeping things dry are important safety considerations, yet they're not the specific maintenance protocol described.

**6. If securing ductboard to a metal, what screw should you use?**

**A. #8 wood screws with hex nuts**

**B. Nails and washers**

**C. Machine screws with lock washers**

**D. #10 sheet metal screws along with 2 1/2 square washer**

Attaching ductboard to metal calls for fasteners that can bite into metal while not crushing the softer ductboard, and that also spread the clamping force so the board isn't torn or pulled through. Self-tapping sheet metal screws are designed for this job; they create their own threads in the metal as you tighten, giving a secure hold without needing nuts or predrilled holes. Using a washer under the screw head distributes the load over a larger bearing surface, which protects the ductboard from damage and helps prevent pull-through under vibration or pressure. That's why the combination of sheet metal screws with a washer is the practical, reliable choice for this connection. Other fasteners don't fit as well: wood screws are meant for wood and won't form proper threads in metal; nails don't provide the required pull-out resistance; machine screws with lock washers require matching tapped holes or nuts and add unnecessary complexity for attaching ductboard to a metal frame.

**7. What instrument is used to measure temperature?**

**A. Barometer**

**B. Thermometer**

**C. Hygrometer**

**D. Anemometer**

Measuring temperature requires an instrument that responds to thermal energy and gives a reading of hot or cold. A thermometer is designed for this purpose, using a liquid expansion, a bimetallic mechanism, or a digital sensor to translate temperature into a readable value. In HVAC work, you'll use thermometers to check supply and return air temperatures, as well as indoor air temperature. Barometers measure atmospheric pressure, hygrometers measure humidity, and anemometers measure air velocity. Because each of these instruments gauges a different property, they don't provide a temperature reading.

**8. Which statement best describes simple machines?**

- A. They are the smaller mechanisms that make up all larger machines, and they can change the direction or magnitude of a force**
- B. They are devices that generate energy**
- C. They are only used to measure weight**
- D. They cannot alter force**

Simple machines are the basic devices that make work easier by changing how a force is applied. They're the building blocks of all larger machines, and using one or more of them lets you change either the direction of a force or how strong the force needs to be (mechanical advantage). For example, a lever or pulley lets you lift a load with less effort or redirect your pull to where you're pulling from. They don't generate energy themselves, and they aren't only used to measure weight. This combination of being foundational building blocks and enabling you to alter force or its direction makes the statement the best description of simple machines.

**9. Other guidelines to be observed when sealing ductboard include: which of the following is a correct guideline?**

- A. Preheat the tape if either the aluminum foil tape or surface is below 50°F at the time of application**
- B. Tape width must be at least 4 inches for all tapes**
- C. Heat-activated tape does not require heating after application**
- D. Tape width for pressure-sensitive tape must be at least 1 inch**

Adhesive performance on ductboard is highly temperature dependent. When either the tape or the surface is cold, the adhesive can become stiff and won't flow well enough to make a strong bond, which risks leaks. Preheating the tape if the tape or the surface is below about 50°F helps the adhesive soften and wet out the surface properly, so the tape adheres firmly and forms a durable seal. Other guidelines aren't universal. Tape width can vary by product and application, so a blanket rule that all tapes must be at least 4 inches isn't always correct. Heat-activated tape does require heat to activate the adhesive, so the claim that it does not require heating after application is incorrect. And the minimum width for pressure-sensitive tape isn't fixed at 1 inch in all cases; installers choose widths based on the seam and tape type. The temperature-focused guideline directly addresses achieving a reliable bond under common field conditions.

**10. Where should diffusers generally be placed in areas that need to be cooled?**

**A. On the floor**

**B. In the ceiling**

**C. Near the windows**

**D. High in the wall so that the cooler air will move downward and increase natural circulation**

Understanding how diffuser placement affects airflow and cooling effectiveness is key. Cooler air is denser than warm air, so when you supply it from a high point, it naturally tends to move downward into the occupied space and promote a circulating pattern. This downward flow helps mix the room air, reduces temperature stratification between the ceiling and the floor, and generally improves comfort and cooling efficiency. Placing a diffuser on the floor would push cold air along the floor where it may stay rather than mix quickly with warmer air above, often leading to drafts and uneven comfort. Diffusers in the ceiling can distribute air broadly, but without directing a downward convection current, cooling effectiveness can be less uniform. Putting diffusers near windows risks picking up solar heat and creating localized layering rather than balanced distribution. High in the wall so that the air moves downward leverages natural convection to maximize circulation and temperature uniformity.

## 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://natehvacsupporttech.examzify.com>**

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

SAMPLE