

NABCEP Technical Sales Practice Exam (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

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

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. What factors can affect the performance and long-term viability of a photovoltaic (PV) system?**
 - A. Only the size of the solar panels
 - B. Installation cost and local regulations
 - C. Environmental conditions such as irradiance and temperatures
 - D. Type of insurance coverage
- 2. What energy conversion occurs in a solar panel?**
 - A. Solar to thermal
 - B. Thermal to electrical
 - C. Solar to electrical
 - D. Kinetic to electrical
- 3. What happens if the voltage in a PV system is too high?**
 - A. It can cause the system to fail completely
 - B. It can lead to inefficient energy production
 - C. It can damage electrical components
 - D. It will not affect the performance
- 4. What is a significant issue with framed solar modules at low tilt angles?**
 - A. Overheating
 - B. Increased soiling problems
 - C. Decreased energy output
 - D. Reduced lifespan
- 5. Which tool is used to predict system outputs and perform financial analysis for PV and renewable energy systems?**
 - A. HOMER
 - B. PVWatts
 - C. System Advisor Model (SAM)
 - D. NAVAL

6. Which of the following is a notable effect of parallel connections in photovoltaic systems?
- A. Decrease in current
 - B. No change in current
 - C. Increase in current
 - D. Decrease in voltage
7. Which of the following best defines the power equation?
- A. Power = Voltage + Current
 - B. Power = Voltage / Current
 - C. Power = Voltage x Current
 - D. Power = Current - Voltage
8. What unit is used to measure battery capacity?
- A. Amp hours
 - B. Watts
 - C. Volts
 - D. Ohms
9. According to the Solar Energy Industries Association (SEIA), what percentage of energy produced is typically exported?
- A. 10-20%
 - B. 20-40%
 - C. 40-60%
 - D. 60-80%
10. Which of the following conductor sizes would be considered larger than 10 awg?
- A. 12 awg
 - B. 8 awg
 - C. 4 awg
 - D. 6 awg

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What factors can affect the performance and long-term viability of a photovoltaic (PV) system?

- A. Only the size of the solar panels
- B. Installation cost and local regulations
- C. Environmental conditions such as irradiance and temperatures**
- D. Type of insurance coverage

The performance and long-term viability of a photovoltaic (PV) system is heavily influenced by environmental conditions, specifically factors such as irradiance and temperatures. Irradiance refers to the amount of sunlight that the solar panels receive, which directly affects their ability to generate electricity. Higher levels of irradiance typically lead to increased energy production. Conversely, factors like shading from trees or buildings can significantly reduce the amount of sunlight the panels receive, thereby diminishing their performance. Temperature also plays a critical role, as solar panels are less efficient at converting sunlight into electricity at higher temperatures. Excessive heat can decrease the output of PV cells, while optimal operating temperatures are crucial for maintaining efficiency. Therefore, both irradiance and temperature are essential considerations in assessing the expected performance and long-term reliability of a solar energy system. While installation costs and local regulations can also impact the overall project feasibility, they do not directly affect the system's operational efficiency or performance over time as environmental conditions do. Additionally, while type of insurance coverage is important for financial protection against unforeseen events, it does not influence how well a PV system will function in terms of energy production. Hence, environmental conditions are key factors for the long-term vitality of photovoltaic systems.

2. What energy conversion occurs in a solar panel?

- A. Solar to thermal
- B. Thermal to electrical
- C. Solar to electrical**
- D. Kinetic to electrical

Solar panels primarily function by converting sunlight directly into electricity through the photovoltaic effect. This process involves the absorption of solar energy by semiconductor materials within the solar cells, which excites electrons and generates electrical current. This transformation from solar energy to electrical energy is the foundation of how solar panels operate, and it highlights the efficiency and effectiveness of photovoltaic technology in harnessing renewable energy. The option stating solar to electrical is correct because it precisely describes this direct conversion process inherent in solar panel functionality. Understanding this conversion is key to recognizing the role of solar power in energy systems, including its benefits and applications in reducing reliance on fossil fuels.

3. What happens if the voltage in a PV system is too high?

- A. It can cause the system to fail completely
- B. It can lead to inefficient energy production
- C. It can damage electrical components**
- D. It will not affect the performance

When the voltage in a photovoltaic (PV) system is too high, it can lead to damage of electrical components. Each component in a PV system, such as inverters, charge controllers, and batteries, has specific voltage ratings. Exceeding these ratings can cause overheating, failure of insulation, or permanent damage. This may compromise the performance and safety of the system, leading to costly repairs or replacement of equipment. High voltage conditions can also lead to excessive arcing, degradation of connectors, and potential fires if not properly managed. Therefore, ensuring that the voltage remains within the manufacturer's specified range is crucial for the longevity and safe operation of the system. Other options, while they may contain elements of truth, do not directly address the immediate and physical impact of excessive voltage on the components of the system in the same way that damage to electrical components does.

4. What is a significant issue with framed solar modules at low tilt angles?

- A. Overheating
- B. Increased soiling problems**
- C. Decreased energy output
- D. Reduced lifespan

Framed solar modules installed at low tilt angles are particularly susceptible to increased soiling problems. When the tilt angle is minimal, the surface of the solar panels may not effectively shed dust, dirt, and other debris. This accumulation can block sunlight from reaching the solar cells, leading to a substantial decrease in energy production. Moreover, soiling issues tend to be exacerbated in areas with high levels of dust or pollution, as the flat surface of panels allows particulates to settle and remain, rather than being washed away by rain or blown off by the wind. The reduced ability to maintain panel cleanliness can significantly affect overall performance and efficiency over time, highlighting the importance of considering tilt angle during installation. Other factors like overheating, decreased energy output, and reduced lifespan may be relevant in other contexts or configurations but are not the primary concern associated with low tilt angles and framed solar modules specifically.

5. Which tool is used to predict system outputs and perform financial analysis for PV and renewable energy systems?

- A. HOMER
- B. PVWatts
- C. System Advisor Model (SAM)**
- D. NAVAL

The System Advisor Model (SAM) is a comprehensive software tool developed by the U.S. Department of Energy that is specifically designed to model the performance and financial feasibility of renewable energy projects, including photovoltaic (PV) systems. SAM allows users to input various project parameters, such as system size, location, and technology type, to simulate energy production and investment returns over time. This makes it a powerful tool for not only predicting system outputs but also for conducting detailed financial analyses, such as calculating the levelized cost of energy (LCOE), internal rate of return (IRR), and net present value (NPV). The versatility of SAM plays a critical role in decision-making for stakeholders in the renewable energy sector, providing insights into project viability under various conditions and scenarios, which can guide investment and operational decisions. This capability sets SAM apart from other tools that may focus solely on operational aspects or financial projections.

6. Which of the following is a notable effect of parallel connections in photovoltaic systems?

- A. Decrease in current
- B. No change in current
- C. Increase in current**
- D. Decrease in voltage

In photovoltaic systems, parallel connections are used to achieve certain electrical characteristics that are crucial for optimizing performance. When solar panels are connected in parallel, the voltage across each panel remains the same, while the currents from each panel add together. This means that the overall current output of the system increases. For example, if you have two panels that each produce 5 amps of current, when they are connected in parallel, the total current output of the system becomes 10 amps. This increased current allows the system to deliver more power to the load, assuming the voltage remains constant. The ability to increase current while maintaining voltage makes parallel connections particularly beneficial in scenarios where higher current outputs are needed without increasing system voltage. This configuration can also help in mitigating the performance impacts of shading on individual panels, as the other panels continue to contribute their current to the overall system. In summary, the notable effect of parallel connections in photovoltaic systems is the increase in current, which can enhance the overall power output and efficiency of the system design.

7. Which of the following best defines the power equation?

- A. Power = Voltage + Current
- B. Power = Voltage / Current
- C. Power = Voltage x Current**
- D. Power = Current - Voltage

The power equation is defined as the product of voltage and current. In electrical systems, power is a measure of the rate at which energy is transferred or converted. The formula captures this relationship; when you multiply voltage (the electric potential) by current (the flow of electric charge), you obtain power measured in Watts (W). This equation is fundamental in understanding how electrical circuits operate, as it illustrates how voltage and current interact to produce power in devices and systems. This relationship is also important in various applications, such as sizing equipment, understanding energy consumption, and optimizing the performance of electrical systems. Knowing that power = voltage x current allows professionals in technical sales and engineering to make informed decisions regarding system design, efficiency, and capacity. Understanding this equation is essential for anyone working with electricity in practical applications.

8. What unit is used to measure battery capacity?

- A. Amp hours**
- B. Watts
- C. Volts
- D. Ohms

Battery capacity is measured in ampere-hours (often abbreviated as Ah or amp-hours). This unit indicates the amount of electric charge a battery can store and deliver over one hour. For example, a battery rated at 100 Ah can theoretically provide 100 amps of current for one hour or 50 amps for two hours. This measurement is crucial in determining how long a battery can sustain a specific load before needing to be recharged. Watts measure power and are a combination of voltage and current, but do not directly indicate the capacity of a battery. Volts measure electrical potential, which is important for understanding how much work can be done, but again, it does not define capacity alone. Ohms measure resistance in an electrical circuit, which is not relevant to battery capacity measurement. Thus, amp hours is the appropriate unit to evaluate and express battery capacity.

9. According to the Solar Energy Industries Association (SEIA), what percentage of energy produced is typically exported?

- A. 10-20%
- B. 20-40%**
- C. 40-60%
- D. 60-80%

The percentage of energy produced that is typically exported, according to the Solar Energy Industries Association (SEIA), is usually in the range of 20-40%. This range reflects the common practice in solar energy production where a portion of the generated electricity is sent back to the grid or supplied to other consumers. This percentage can vary based on regional regulations, infrastructure, and the specific setup of solar installations, but SEIA's data indicates that 20-40% is a typical figure for solar energy exports. Understanding this percentage is crucial for stakeholders in the solar energy sector, including developers, investors, and policy makers, as it impacts revenue projections, grid management, and the overall effectiveness of solar projects in contributing to energy needs.

10. Which of the following conductor sizes would be considered larger than 10 awg?

- A. 12 awg
- B. 8 awg
- C. 4 awg**
- D. 6 awg

The conductor sizes are designated using the American Wire Gauge (AWG) system, which specifies a range of sizes for electrical conductors. In this system, a smaller gauge number indicates a larger conductor diameter. For example, 10 AWG wire has a certain diameter and carrying capacity, and any gauge number that is lower than 10, such as 12 AWG or 8 AWG, represents a smaller conductor. When considering sizes larger than 10 AWG, one must look for sizes that use a smaller AWG number as they increase in size. In this case, both 8 AWG and 6 AWG are indeed larger than 10 AWG, but 4 AWG is even larger than both of them. Therefore, the correct choice is 4 AWG, as it is the only option that is definitively larger than 10 AWG among the provided choices. Understanding this scale is crucial for ensuring proper electrical installations, reducing voltage drop, and maintaining safe operating temperatures for conductors in various applications.

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://nabceptechnicalsales.examzify.com>

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

SAMPLE