

BASIC DIVISION OFFICER COURSE (BDOC) – ENGINEERING PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE**

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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	16

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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 of the following is not a type of shaft bearing?**
 - A. Main thrust bearing
 - B. Line (spring) bearing
 - C. Stern tube bearing
 - D. Carbonized bearing

- 2. Why is it important to maintain detailed inventory records of engineering supplies?**
 - A. To show compliance with regulatory agencies
 - B. To ensure critical supplies are available and prevent shortages
 - C. To reduce the number of suppliers
 - D. To implement automated ordering systems

- 3. What function do valves serve in a fluid system?**
 - A. Control and direct the flow of fluids
 - B. Insulate pipes from temperature changes
 - C. Measure fluid pressure
 - D. Remove contaminants from fluids

- 4. What is a significant advantage of using variable frequency drives (VFDs)?**
 - A. They decrease overall engine temperature
 - B. They allow precise control of motor speed and torque
 - C. They reduce the weight of electric motors
 - D. They increase the number of operational hours

- 5. What type of flow do non-positive displacement pumps typically handle?**
 - A. Always viscous flow
 - B. Variable non-viscous flow
 - C. Consistent thick fluid flow
 - D. Only liquid flow

- 6. What represents a suitable color coding method for hoses carrying potable water?**
- A. Black
 - B. Blue
 - C. Gray
 - D. Green
- 7. Which of the following is a symptom of heat exhaustion?**
- A. Hot/dry skin
 - B. Clammy/pale skin
 - C. Reduced or no sweating
 - D. Elevated blood pressure
- 8. What color is a caution tag?**
- A. Green
 - B. Red
 - C. Yellow
 - D. Blue
- 9. What cooling method is used for stern tube bearings?**
- A. Cooling fans
 - B. Seawater
 - C. Air ventilation
 - D. Oil cooling systems
- 10. Who does CHENG report to?**
- A. Executive Officer
 - B. Chief Engineer
 - C. Engineering Duty Officer
 - D. Commanding Officer

Answers

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

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Explanations

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1. Which of the following is not a type of shaft bearing?

- A. Main thrust bearing
- B. Line (spring) bearing
- C. Stern tube bearing
- D. Carbonized bearing**

The correct choice identifies a type of bearing that does not fit within the standard classifications of shaft bearings used in engineering systems. Main thrust bearings, line (spring) bearings, and stern tube bearings are all recognized types of bearings that have specific roles in supporting rotating shafts. Main thrust bearings are designed to handle axial loads and ensure that the rotating shaft can move smoothly without excessive wear or misalignment. Line (spring) bearings provide support while allowing for some axial movement, primarily in applications where shaft alignment might change due to temperature variations or load shifts. Stern tube bearings are utilized in marine applications, specifically to support the propeller shaft in the stern of a ship, providing stability and minimizing friction as the shaft rotates. In contrast, carbonized bearing is not widely classified within the standard categories of shaft bearings, making it the correct answer for the question. While carbonized bearings might refer to a specific treatment or material characteristic in bearing manufacturing, they do not represent a distinct type of bearing in the same way the others mentioned do. This distinction is important for understanding the various functions and applications of bearings within engineering practices.

2. Why is it important to maintain detailed inventory records of engineering supplies?

- A. To show compliance with regulatory agencies
- B. To ensure critical supplies are available and prevent shortages**
- C. To reduce the number of suppliers
- D. To implement automated ordering systems

Maintaining detailed inventory records of engineering supplies is crucial for ensuring that critical supplies are available and preventing shortages. This practice allows organizations to track their inventory levels accurately, facilitating timely ordering and procurement of materials needed for maintenance, repairs, and operations. When a precise inventory record is kept, it helps predict when supplies will run low based on usage rates, enabling proactive management of stock levels. By anticipating needs, a facility can avoid delays in engineering projects caused by shortfalls in essential supplies, thereby minimizing downtime and maintaining operational efficiency. Additionally, having a clear record of inventory helps in identifying which supplies are used most frequently and may require more stringent restocking practices, thereby enhancing overall supply chain management. The other options focus on different outcomes of inventory management, such as regulatory compliance, reducing suppliers, or automation, which may also have their advantages but do not directly address the fundamental operational necessity of availability and continuity in engineering supplies.

3. What function do valves serve in a fluid system?

- A. Control and direct the flow of fluids**
- B. Insulate pipes from temperature changes
- C. Measure fluid pressure
- D. Remove contaminants from fluids

Valves play a crucial role in fluid systems by controlling and directing the flow of fluids. They can be used to start, stop, or regulate the flow of liquids or gases within the system. Through adjustments in valve position, operators can manage the flow rate, pressure, and direction of the fluid, ensuring that it reaches the desired location and operates within safe parameters. This functionality is essential not only for maintaining operational efficiency but also for ensuring safety within the system, as improper flow can lead to equipment malfunction or failure. Thus, understanding how valves work and their critical role in fluid management is fundamental for anyone involved in engineering and fluid system operations.

4. What is a significant advantage of using variable frequency drives (VFDs)?

- A. They decrease overall engine temperature
- B. They allow precise control of motor speed and torque**
- C. They reduce the weight of electric motors
- D. They increase the number of operational hours

Using variable frequency drives (VFDs) significantly enhances the control over motor speed and torque, making this the correct choice. VFDs achieve this by adjusting the frequency and voltage supplied to the electric motor, allowing for a wide range of speed settings that can be fine-tuned for specific operational needs. This means that the motor can operate efficiently at varying speeds, which is particularly beneficial in applications requiring precise movement, such as conveyors or fans. By providing the ability to control both the speed and torque, VFDs contribute to optimized energy consumption and improved process performance. Moreover, the precise control can lead to extended equipment life and reduced wear and tear, as motors are not constantly running at full power when it is not necessary. This feature of VFDs makes them incredibly valuable in modern industrial applications, particularly those that demand flexibility and efficiency.

5. What type of flow do non-positive displacement pumps typically handle?

- A. Always viscous flow
- B. Variable non-viscous flow**
- C. Consistent thick fluid flow
- D. Only liquid flow

Non-positive displacement pumps are designed to handle variable non-viscous flow. These pumps operate by using rotational energy to move fluid, which allows them to adapt to changes in flow demand and handle a wider range of flow rates. This characteristic is particularly useful in applications where the fluid properties can change, as these pumps can handle fluctuations without being affected by pressure changes in the system. The ability of non-positive displacement pumps to manage variable flow is due to the way they draw in and expel fluid. Unlike positive displacement pumps, which pump a fixed amount of fluid with each cycle, non-positive displacement pumps can adjust their output based on the resistance and requirements of the system, resulting in the capability to accommodate varying flow conditions. This makes them ideal for applications where the viscosity of the fluid is low and where changes in flow rate are frequent. In contrast, the other options describe more specific conditions or limitations that do not align with the operational characteristics of non-positive displacement pumps. This is why 'variable non-viscous flow' is the accurate choice, emphasizing the pump's capability to handle various flow rates without being restricted to a specific fluid type or viscosity.

6. What represents a suitable color coding method for hoses carrying potable water?

- A. Black
- B. Blue**
- C. Gray
- D. Green

The suitable color coding method for hoses carrying potable water is blue. In the context of industrial and safety applications, blue is commonly used to identify drinking water or potable water systems. This color choice is critical for maintaining clarity and safety in environments where distinguishing between different types of fluids is necessary. Color coding serves an important purpose by providing quick and clear identification, thereby minimizing the risk of contamination and ensuring that potable water is easily recognized. By using blue for hoses designated for drinking water, personnel can readily ensure that water sources are safe and appropriate for consumption. This practice aligns with standard safety protocols in many industries, including maritime and construction, where potable water integrity is vital. In contrast, the other colors listed do not typically represent potable water. For instance, black is often associated with sewage or waste materials, gray may represent non-potable water and certain types of industrial applications, and green might be used for other purposes such as sprinkler systems. Thus, using blue for potable water enhances safety and operational efficiency.

7. Which of the following is a symptom of heat exhaustion?

- A. Hot/dry skin
- B. Clammy/pale skin**
- C. Reduced or no sweating
- D. Elevated blood pressure

Heat exhaustion is a condition that occurs when the body becomes overheated, typically due to prolonged exposure to high temperatures combined with high humidity and physical exertion. One of the key symptoms of heat exhaustion is clammy or pale skin. This symptom results from the body's attempt to regulate temperature by sweating, which can lead to moisture on the skin while also causing vasodilation, resulting in pale skin due to a decrease in blood flow to the surface. In contrast, hot and dry skin is more characteristic of heat stroke, which is a more severe heat-related illness. Reduced or no sweating is also associated with heat stroke rather than heat exhaustion, indicating the body's inability to cool itself effectively. Elevated blood pressure can occur due to various factors but is not a definitive symptom of heat exhaustion, as the condition often leads to low blood pressure due to dehydration and the body's effort to maintain blood flow to critical areas. Understanding these symptoms is critical for taking appropriate measures to prevent further health complications, especially in situations involving prolonged exposure to high temperatures.

8. What color is a caution tag?

- A. Green
- B. Red
- C. Yellow
- D. Blue

Caution tags are specifically designed to be yellow, which serves an important purpose in various safety and maintenance contexts. The use of yellow is universally recognized as a signal for caution and indicates that there are potential hazards or unsafe conditions that must be taken into account. This color distinction helps to quickly convey the need for attention and careful approach, thereby promoting safety awareness among personnel. In many settings, including engineering and maintenance operations, color coding is crucial for identifying the status of equipment or areas. Yellow caution tags help differentiate from other tags used for different purposes, such as red for danger signs, green for safety, and blue for information. This systematic approach to color coding enhances effective communication regarding safety protocols and equipment status in workplace environments.

9. What cooling method is used for stern tube bearings?

- A. Cooling fans
- B. Seawater
- C. Air ventilation
- D. Oil cooling systems

The correct answer is seawater, which is used as a cooling method for stern tube bearings primarily because it is abundant and readily available in marine environments. Stern tube bearings are located in the ship's hull, where the propeller shaft passes through, and they play a crucial role in supporting and allowing the shaft to rotate smoothly. Using seawater for cooling helps to dissipate heat generated from friction as the stern tube bearings operate. This cooling is vital to maintaining the integrity and performance of the bearings, as excessive heat can lead to premature wear or failure. In addition to being effective for heat transfer, seawater is also environmentally consistent with the operations of a vessel. This method allows for efficient heat management without the need for complex cooling systems that would require additional resources or fuel. Other cooling methods, such as oil cooling systems or air ventilation, may have specific applications but are less common in the context of stern tube bearings compared to using seawater, primarily due to factors like availability, efficiency, and the nature of the marine environment.

10. Who does CHENG report to?

- A. Executive Officer
- B. Chief Engineer
- C. Engineering Duty Officer
- D. Commanding Officer**

The Chief Engineer (CHENG) holds a critical position within the engineering department of a naval ship or shore activity, and their reporting structure is essential to understand. In this context, the CHENG directly reports to the Commanding Officer (CO) of the ship or command. This relationship is vital because the CO is responsible for overall command and operations, including the technical and operational readiness of the vessel, which heavily relies on the effective management and operation of its engineering systems. The CHENG's duties involve ensuring that the engineering plant is functioning correctly, managing personnel in the engineering division, and maintaining compliance with safety and operational standards. By reporting to the CO, the CHENG is able to directly influence decisions that affect the operational capacity and safety of the entire ship, ensuring that engineering considerations are integrated into broader tactical and strategic operations. Understanding this reporting relationship emphasizes the importance of effective communication and coordination between the engineering department and command leadership, which is crucial for mission success.

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:

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

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