

BASIC ENGINEERING COMMON CORE (BECC) 4 PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE

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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. What is the upward force exerted on the hull of the ship by displaced water?**
 - A. Gravity
 - B. Resistance
 - C. Buoyancy
 - D. Drag
- 2. What is used to create a seal against the knife edge on a water tight door or hatch?**
 - A. Sealant
 - B. Gasket
 - C. Adhesive tape
 - D. Caulking compound
- 3. Which of the following is True about the primary boundaries during a flood?**
 - A. They are always movable
 - B. They should be marked clearly
 - C. They are set by the fire chief
 - D. They are irrelevant during floods
- 4. What system is used to provide weather air inside the ship?**
 - A. Supply system
 - B. Ventilation system
 - C. Air conditioning system
 - D. Heating system
- 5. Which firemain loop has better survivability between port and starburst side being on different decks?**
 - A. Horizontal loop
 - B. Vertical loop
 - C. Vertical offset loop
 - D. Starburst loop

- 6. What state should a sounding tube valve be in prior to removing the cap?**
- A. Open
 - B. Shut
 - C. Adjusted
 - D. Locked
- 7. What does a circle around a DC symbol indicate in a communication context?**
- A. System failure
 - B. Casualty is engaged
 - C. Maintenance required
 - D. System operational
- 8. What is the voltage rating of the portable submersible pump?**
- A. 220 volts
 - B. 330 volts
 - C. 440 volts
 - D. 550 volts
- 9. What component of PARS is designed for both pulling and lifting operations?**
- A. Wrecking bar
 - B. Cutter
 - C. Spreader
 - D. Chain hoist
- 10. What is identified by the code X40J in a communication context?**
- A. Emergency communication circuit
 - B. Casualty communication circuit
 - C. Maintenance communication channel
 - D. General communication line

Answers

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

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Explanations

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1. What is the upward force exerted on the hull of the ship by displaced water?

- A. Gravity
- B. Resistance
- C. Buoyancy**
- D. Drag

The upward force exerted on the hull of the ship by displaced water is known as buoyancy. This principle is based on Archimedes' principle, which states that any object submerged in a fluid experiences an upward force equal to the weight of the fluid it displaces. As a ship floats, it pushes water aside (displaces it), and in response, the water exerts an upward force on the ship's hull, counteracting gravity and keeping the ship afloat. Understanding buoyancy is crucial in naval architecture and marine engineering since it governs how ships are designed and operated. Factors such as the shape of the hull and the density of the water influence the amount of buoyant force experienced. When a ship is properly designed, its buoyancy allows it to float while carrying its load, ensuring stability and safety at sea. The other forces listed do not describe this upward interaction with displaced water. Gravity refers to the weight of the ship acting downward, resistance pertains to forces opposing the ship's motion through water, and drag is a specific type of resistance experienced by the hull as it moves through the fluid.

2. What is used to create a seal against the knife edge on a water tight door or hatch?

- A. Sealant
- B. Gasket**
- C. Adhesive tape
- D. Caulking compound

A gasket is specifically designed for creating a tight seal between two surfaces, such as the knife edge on a watertight door or hatch. Its primary function is to prevent the passage of liquids or gases, which is critical in marine and industrial applications where watertight integrity is essential. Gaskets are typically made from materials that can compress and conform to the surfaces they're sealing against, ensuring an effective barrier. In contrast, sealant is generally used for filling gaps and cracks but may not provide the same level of compression and sealing capability as a gasket. Adhesive tape is usually meant for bonding or holding items together rather than creating a seal, and caulking compound, while it can seal gaps, is also not as effective as a gasket for applications requiring a precise and reliable seal under pressure. Thus, a gasket is the preferred choice for ensuring that watertight doors and hatches function as intended.

3. Which of the following is True about the primary boundaries during a flood?

- A. They are always movable
- B. They should be marked clearly**
- C. They are set by the fire chief
- D. They are irrelevant during floods

The assertion that primary boundaries during a flood should be marked clearly is accurate. During emergency situations, such as flooding, clearly marked boundaries are crucial for effective communication and safety. These boundaries help to delineate safe and unsafe areas, ensuring that both emergency responders and the public can navigate the environment safely. Clearly marked boundaries facilitate organized evacuation efforts, keep people away from hazardous zones, and guide rescue operations. This clarity can prevent confusion and enhance the overall response effectiveness. Movable boundaries can certainly exist in some contexts, but they are not a defining feature of primary boundaries during a flood. The idea that boundaries are set by the fire chief may not universally apply, as various authorities could establish them based on the specific incident and protocols. Lastly, the notion that primary boundaries are irrelevant during floods contradicts the established need for safety and organization in disaster management. Therefore, the emphasis on clear marking of boundaries is essential for maintaining order and ensuring safety during such critical situations.

4. What system is used to provide weather air inside the ship?

- A. Supply system**
- B. Ventilation system
- C. Air conditioning system
- D. Heating system

The system responsible for providing weather air inside a ship is primarily the ventilation system. This system is designed to ensure proper air circulation throughout the ship, managing the intake and exhaust of air, and helping maintain a comfortable atmosphere for crew and passengers. It also plays a crucial role in applications such as controlling humidity and removing stale air. The supply system typically refers to any mechanism that delivers resources, but it is not specific to managing the environmental conditions within the ship. The air conditioning system is focused more on cooling and dehumidifying the air rather than simply providing outside air. Similarly, the heating system is dedicated to raising the temperature of the air rather than ensuring a steady flow of weather air from outside. Understanding the distinction between these systems clarifies why the ventilation system is the correct choice, as it encompasses the key functions needed for air quality and circulation on board.

5. Which firemain loop has better survivability between port and starburst side being on different decks?

- A. Horizontal loop
- B. Vertical loop
- C. Vertical offset loop**
- D. Starburst loop

The vertical offset loop offers enhanced survivability for firemain when port and starburst sides are on different decks. This design creates a loop that rises and falls vertically, providing a more robust distribution of water supply across multiple levels of a ship. The vertical offset allows for more flexible routing of pipes and can better address varying deck heights and configurations, reducing the risk of damage during a fire or flooding event. The offset design provides redundancy, as there are multiple pathways for water to travel throughout the system. If one section becomes compromised, other parts of the loop can still function, ensuring that critical areas of the ship remain accessible for firefighting efforts. This characteristic is particularly important on ships, where different decks may be affected by different incidents or structural failures. The other loop types do not provide the same level of flexibility or redundancy as the vertical offset loop. For example, a horizontal loop operates primarily on a single plane and may be more susceptible to complete failure if any portion of it is damaged. The vertical loop does offer vertical routing, but without the specific offset design, it lacks the additional pathways that enhance survival during critical situations. The starburst loop design, while effective in some contexts, does not inherently provide the same robustness and adaptability as the vertical offset

6. What state should a sounding tube valve be in prior to removing the cap?

- A. Open
- B. Shut**
- C. Adjusted
- D. Locked

The correct choice is for the sounding tube valve to be shut prior to removing the cap. This is crucial for safety and to prevent any unintended release of fluid or pressure that could occur if the valve is open. When the valve is shut, it effectively isolates the sounding tube from any pressure or liquid, allowing for a safe removal of the cap without the risk of spillage or an uncontrolled release. In this context, the other states are less ideal. An open valve could lead to fluid escaping, generating a hazard, while an adjusted valve might imply a working state that could still pose risks. A locked valve, while secure, may not be necessary if the primary goal is simply to ensure that the valve is not in an open state before cap removal. Thus, shutting the valve aligns with best practices for safety and operational integrity.

7. What does a circle around a DC symbol indicate in a communication context?

- A. System failure
- B. Casualty is engaged**
- C. Maintenance required
- D. System operational

In a communication context, a circle around a DC symbol is commonly used to indicate that the casualty is engaged. This means that specific protocols or communications should be followed when interacting with the system, signifying that it is currently being dealt with or is in a state of focus for operational or safety reasons. Understanding this symbol's usage can be critical for operators and maintenance personnel as it affects how they approach the system in question. Identifying that a system is engaged helps prevent misunderstandings and ensures that communication and actions taken are appropriate for the operational status of that specific system. From a practical standpoint, the other symbols indicate various statuses, but they do not convey the specific engagement of a casualty as indicated by the circle around the DC symbol. Recognizing the nuances in these symbols contributes to effective communication and operational safety in engineering contexts.

8. What is the voltage rating of the portable submersible pump?

- A. 220 volts
- B. 330 volts
- C. 440 volts**
- D. 550 volts

The voltage rating of a portable submersible pump typically indicates the maximum voltage at which the pump can safely operate. In this case, a rating of 440 volts is common for industrial and heavy-duty pumps designed to handle significant pumping tasks, especially in applications that require high power and efficiency. Such a voltage rating allows the pump to deliver better performance in terms of flow rates and lifting capabilities. Submersible pumps that operate at this voltage are often utilized in various applications, including drainage, sewage, and groundwater extraction in construction and agricultural settings. Using a pump rated for 440 volts ensures that the motor within the pump is adequately powered to handle the demands placed upon it without overheating or failing. In contrast, lower voltage ratings might indicate pumps meant for lighter duties or household applications, which would not be suitable for the high-demand environments where a 440-volt pump would be more appropriate. Therefore, the higher voltage rating of 440 volts aligns with the needs of heavy-duty applications, making it the correct choice.

9. What component of PARS is designed for both pulling and lifting operations?

- A. Wrecking bar
- B. Cutter
- C. Spreader**
- D. Chain hoist

The correct choice revolves around the versatility of the spreader in performing both pulling and lifting operations. A spreader is particularly effective in lifting and moving heavy loads by distributing the load across a broader area, which allows for better balance and stability during operations. This makes it suitable not only for lifting but also for subsequently moving equipment or materials horizontally. Spreader bars or lift beams can be attached to cranes or other lifting devices, facilitating operations that require both vertical and horizontal maneuverability. This capability is crucial in various engineering and construction applications where load handling efficiency is paramount. Other components listed serve more specialized functions. A wrecking bar is primarily used for prying and demolition work, a cutter is designed for cutting materials rather than lifting, and a chain hoist is typically focused on lifting operations but does not pull horizontally in the same way a spreader does. The spreader's dual functionality is what distinguishes it in this context.

10. What is identified by the code X40J in a communication context?

- A. Emergency communication circuit
- B. Casualty communication circuit**
- C. Maintenance communication channel
- D. General communication line

In a communication context, the code X40J specifically refers to a casualty communication circuit. This designation is used in various military and emergency responses to indicate a network specifically set up to manage communications related to casualties, including notification and information sharing about injured personnel. This type of communication is essential in crisis situations, ensuring that vital information flows efficiently among healthcare teams, command centers, and support units so that timely assistance can be provided. It is structured to prioritize urgency and accuracy in relaying information regarding injuries and casualties. The other choices indicate different types of communication channels, but they do not encompass the focused purpose of X40J, which is meaningful primarily in the context of casualty management. Emergency communication circuits handle general emergencies, maintenance communication channels relate to operational upkeep, and general communication lines cover standard messaging, but none cater specifically to casualty situations like X40J does.

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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