

# Basic Engineering Common Core (BECC) 5 Practice Test (Sample)

## Study Guide



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

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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. For how long is LO heated in the settling tank during the purification process?**
  - A. 12 hours**
  - B. 24 hours**
  - C. 36 hours**
  - D. 48 hours**
  
- 2. At what temperature is the chill room typically kept?**
  - A. 0 - 10 F**
  - B. 10 - 33 F**
  - C. 34 - 50 F**
  - D. 50 - 60 F**
  
- 3. What type of bearing contains many small diameter cylindrical rollers that ride directly on the shaft?**
  - A. Ball bearing**
  - B. Needle bearing**
  - C. Journal bearing**
  - D. sleeve bearing**
  
- 4. What is the purpose of a tank vent?**
  - A. To pressurize the tank**
  - B. To allow air to enter and exit the tank**
  - C. To prevent overflow**
  - D. To filter contaminants**
  
- 5. What is a metal plate installed inside a tank to prevent surging?**
  - A. Baffle**
  - B. Flange**
  - C. Spacer**
  - D. Seal**

- 6. What prevents the conveyor doors from closing if the load/unload device is not in stowed position?**
- A. Door block**
  - B. Safety latch**
  - C. Conveyor actuator**
  - D. Locking mechanism**
- 7. What type of liquid refrigerant is commonly used in the navy?**
- A. R-22**
  - B. R-134a**
  - C. R-410A**
  - D. R-114**
- 8. What instrument is utilized to measure the amount of oil in water that is discharged overboard?**
- A. Oil Quality Analyzer**
  - B. Water Purity Meter**
  - C. Oil Content Monitor**
  - D. Discharge Analyzer**
- 9. What term describes the force of rotation in mechanical systems?**
- A. Power**
  - B. Torque**
  - C. Momentum**
  - D. Yield strength**
- 10. What type of tanks are specifically designed to remain full of liquids?**
- A. Potable water tanks**
  - B. Fuel storage tanks**
  - C. Sea water compensated fuel storage tanks**
  - D. Holding tanks**

## **Answers**

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

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## **Explanations**

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**1. For how long is LO heated in the settling tank during the purification process?**

- A. 12 hours
- B. 24 hours**
- C. 36 hours
- D. 48 hours

The correct answer indicates that the lubricating oil (LO) is heated in the settling tank during the purification process for 24 hours. This duration is significant because it allows sufficient time for the oil to separate from impurities and contaminants that may be suspended in it. The heating process helps in reducing the viscosity of the oil, which enhances the effectiveness of settling and separation. Maintaining the oil at an elevated temperature for this length of time promotes the settling of solids and facilitates the removal of water and other impurities. Thus, the decision to heat the LO for 24 hours is based on the need to ensure a thorough purification process before the oil is filtered or returned to use. The other durations, while they may seem plausible, do not align with standard industry practices regarding effective oil purification.

**2. At what temperature is the chill room typically kept?**

- A. 0 - 10 F
- B. 10 - 33 F**
- C. 34 - 50 F
- D. 50 - 60 F

The chill room is typically maintained at a temperature range of 10 to 33 degrees Fahrenheit. This temperature range is optimal for preserving the freshness and quality of perishable items, particularly in food processing or storage environments. At these temperatures, the growth of bacteria and spoilage organisms is significantly slowed, which is crucial for maintaining food safety and extending the shelf life of products. The specific range of 10 to 33 degrees Fahrenheit ensures that products remain in a controlled environment, preventing freezer burn and maintaining the quality of items that need to be held in a chilled but not frozen state. This is especially important for items like meats, dairy, and certain vegetables, which benefit from cool storage without reaching freezing temperatures. Other temperature ranges, such as those below 10 degrees Fahrenheit, might be too cold for items that should not freeze, while temperatures above 33 degrees Fahrenheit might not provide the needed preservation effects, allowing for microbial growth. The 34 to 50 degrees Fahrenheit range could still be considered as cool storage, but it does not offer the same level of preservation efficiency associated with the chill room's specific temperature setting. Therefore, the choice of 10 to 33 degrees Fahrenheit accurately reflects the standard practice in maintaining chill rooms for optimal food safety and

**3. What type of bearing contains many small diameter cylindrical rollers that ride directly on the shaft?**

- A. Ball bearing**
- B. Needle bearing**
- C. Journal bearing**
- D. sleeve bearing**

The correct choice is a needle bearing. Needle bearings are designed to accommodate a shaft and contain many small diameter cylindrical rollers, which allows them to provide a large load-bearing surface while maintaining a compact size. The design of needle bearings enables them to support radial loads effectively due to the reduced diameter of the rollers, which minimizes friction and enhances performance in applications where space is limited. In contrast, ball bearings use spherical balls that can more effectively handle both radial and axial loads but are generally bulkier in comparison. Journal bearings and sleeve bearings are types of plain bearings that rely on a sliding surface rather than rolling elements; they do not contain rollers of any kind, which distinguishes their functionality from that of needle bearings. Therefore, the unique structure and function of needle bearings make them the fitting answer to this question.

**4. What is the purpose of a tank vent?**

- A. To pressurize the tank**
- B. To allow air to enter and exit the tank**
- C. To prevent overflow**
- D. To filter contaminants**

A tank vent serves the critical purpose of allowing air to enter and exit the tank. This function is essential to maintain atmospheric pressure within the tank as liquid is added or withdrawn. When liquid is drawn out, a vacuum could develop if there is no venting, which can cause structural stress or potential damage to the tank. Similarly, when liquid is added, the vent allows displacement of air to avoid pressurization. Proper venting is crucial for safe tank operation and to prevent any issues related to pressure changes, ensuring that the tank functions efficiently and safely. While some of the other options touch on aspects related to tank operation, they do not accurately represent the primary role of a tank vent. For instance, pressurizing the tank can lead to risks, and preventing overflow generally involves other mechanisms such as overflow lines or alarms rather than the vent itself. Filtering contaminants pertains to ensuring the quality of the liquids involved, which is also not a function of the vent. Thus, the correct understanding of the vent's purpose underscores its importance in facilitating safe and effective tank operation.

**5. What is a metal plate installed inside a tank to prevent surging?**

- A. Baffle**
- B. Flange**
- C. Spacer**
- D. Seal**

A baffle is a metal plate installed inside a tank specifically designed to prevent surging. Surging refers to the rapid movement of liquid within the tank that can occur due to changes in motion or sudden shifts in the tank's environment. The primary function of a baffle is to disrupt this flow, thereby minimizing the impact of the surging liquid against the tank walls and helping to stabilize the contents. Baffles work by creating zones of lower velocity within the tank, which reduces the likelihood of turbulence. This stabilization can be crucial in various applications, particularly in processes where maintaining a consistent liquid level and minimizing agitation is important for both safety and operational efficiency. By controlling the movement of liquids, baffles can also help in the mixing process and in maintaining temperature uniformity within the tank. Understanding the function of a baffle is essential, as it plays a critical role in storage tanks and processing equipment across many industries, including chemical processing, petroleum storage, and food manufacturing.

**6. What prevents the conveyor doors from closing if the load/unload device is not in stowed position?**

- A. Door block**
- B. Safety latch**
- C. Conveyor actuator**
- D. Locking mechanism**

The function of a door block in a conveyor system is to physically obstruct the closing of the conveyor doors when the load/unload device is not properly stowed. This safety feature ensures that the doors can only close when it's safe to do so, preventing accidents or damage that could occur if the device is still in its operational position. It serves as a mechanical safeguard, enhancing operational safety by ensuring that the conveyor system is only used when conditions are appropriate. The other options, while they might play roles in different aspects of machinery safety or operation, do not specifically address the need to prevent the closing of the doors based on the position of the load/unload device. Understanding these mechanisms is essential for maintaining safe operating conditions in engineering applications involving conveyor systems.

**7. What type of liquid refrigerant is commonly used in the navy?**

- A. R-22**
- B. R-134a**
- C. R-410A**
- D. R-114**

The choice of R-114 as the common refrigerant in naval applications is based on several factors. R-114 is a chlorofluorocarbon (CFC) that was historically favored for its stability and effectiveness in a range of temperatures. It provides excellent thermodynamic properties, making it suitable for refrigeration and air conditioning systems used in marine environments. In naval operations, equipment must often endure extreme conditions, including corrosion from saltwater, pressure variations, and temperature fluctuations. R-114's properties help ensure efficient heat exchange and system reliability under these demanding conditions. Additionally, R-114 has a relatively low toxicity and is less flammable compared to some other refrigerants, providing added safety in enclosed environments found on ships and submarines. Other refrigerants mentioned, such as R-22 and R-134a, are more commonly used in commercial and residential applications, while R-410A is primarily used in newer air conditioning systems due to its higher efficiency but is less suited for certain naval requirements. Thus, R-114 remains the more applicable choice for military applications within the navy.

**8. What instrument is utilized to measure the amount of oil in water that is discharged overboard?**

- A. Oil Quality Analyzer**
- B. Water Purity Meter**
- C. Oil Content Monitor**
- D. Discharge Analyzer**

The instrument used to measure the amount of oil in water that is discharged overboard is the oil content monitor. This device is specifically designed to continuously monitor the level of oil contamination in water, particularly in marine applications, ensuring compliance with environmental regulations. It typically utilizes sensors and optical techniques to detect the presence and concentration of oil in the water, allowing operators to make informed decisions about discharge practices. Other instruments listed serve different purposes. An oil quality analyzer focuses on assessing the properties or quality of oil itself, not the concentration in water. A water purity meter is used to measure the overall purity of water, which may not specifically indicate oil content. A discharge analyzer could refer to a broader array of instruments that assess various aspects of discharged materials, but without the specific focus on oil contamination present in an oil content monitor. The dedicated functionality of the oil content monitor makes it the appropriate choice for monitoring oil levels in discharged water.

**9. What term describes the force of rotation in mechanical systems?**

**A. Power**

**B. Torque**

**C. Momentum**

**D. Yield strength**

The term that describes the force of rotation in mechanical systems is torque. Torque is defined as a measure of the rotational force that causes an object to turn around an axis. It is a vector quantity, typically calculated as the product of the force applied and the distance from the pivot point (or axis of rotation) to where the force is applied. This relationship indicates that both the amount of force and the distance from the pivot point are crucial in determining how effectively that force will cause an object to rotate. In contrast, power refers to the rate at which work is done or energy is transferred over time, while momentum pertains to the quantity of motion an object possesses, dependent on its mass and velocity. Yield strength is a material property that describes the maximum stress a material can withstand before it begins to deform permanently. Thus, while power, momentum, and yield strength are important concepts in their respective contexts, torque specifically addresses the aspect of rotational motion in mechanical systems.

**10. What type of tanks are specifically designed to remain full of liquids?**

**A. Potable water tanks**

**B. Fuel storage tanks**

**C. Sea water compensated fuel storage tanks**

**D. Holding tanks**

Sea water compensated fuel storage tanks are specifically designed to remain full of liquids, primarily to maintain stability and balance during operations. These tanks are particularly utilized in marine applications, where the buoyancy and stability of the vessel depend on the weight distribution of the fuel storage. By compensating for the weight of fuel consumed with seawater, these tanks help to ensure that the vessel remains properly balanced as fuel levels change. This design allows for a continuous and controlled supply of liquid, reducing the risk of air pockets and ensuring that the pump systems operate efficiently. This contrasts with other types of tanks, which may serve different purposes or may not be designed to remain full. For instance, potable water tanks are used to store drinkable water but are not inherently designed to remain full under changing conditions of use. Fuel storage tanks can be designed to hold liquids, but they may not require constant fullness as they are primarily concerned with fuel reserve and dispensing. Holding tanks, on the other hand, are typically not meant to remain full at all times as they might be used to store waste or excess liquid temporarily.

## 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://becc5.examzify.com>**

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

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