

# Basic Engineering Common Core (BECC) 2 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. What color is utilized for fuel oil hand wheels?**
  - A. Yellow**
  - B. Dark blue**
  - C. Light purple**
  - D. Striped black and yellow**
  
- 2. What is the primary cause of corrosion in metals?**
  - A. Mechanical stress applied to metals**
  - B. The electrochemical reaction between the metal and its environment**
  - C. Temperature changes in the environment**
  - D. The presence of specific alloys in the metals**
  
- 3. Where are safety chains required to be installed?**
  - A. At the entrance of all rooms**
  - B. Elevator openings, walkways, deck edges, hatches**
  - C. Only on personal protective equipment**
  - D. In storage areas for tools and equipment**
  
- 4. What action is necessary if equipment parameters are exceeded?**
  - A. Ignore it**
  - B. Notify the engineering department**
  - C. Request the Commanding Officer's approval**
  - D. Discontinue equipment use**
  
- 5. What is the primary purpose of the ORM program?**
  - A. To minimize operational costs**
  - B. Increase the success chance of the mission**
  - C. Ensure compliance with regulations**
  - D. Train personnel on safety procedures**

- 6. What type of quick acting valve provides low flowing resistance and can be throttled?**
- A. Gate valve**
  - B. Butterfly valve**
  - C. Plug valve**
  - D. Ball valve**
- 7. What happens to an object in motion according to the principle of inertia?**
- A. It stops suddenly.**
  - B. It remains in motion until acted upon.**
  - C. It changes direction spontaneously.**
  - D. It decreases speed without any force.**
- 8. What does the acronym PLC stand for in control engineering?**
- A. Programmable Logic Controller**
  - B. Programmable Linear Converter**
  - C. Power Line Communication**
  - D. Passive Load Controller**
- 9. Why is frictional force important for movement?**
- A. It allows objects to move freely without resistance.**
  - B. It is necessary for accelerating objects without force.**
  - C. It prevents slipping and aids in control during movement.**
  - D. It increases the kinetic energy of moving objects.**
- 10. Which log documents all fuels, lubricating oils, and freshwater on board?**
- A. Daily Log**
  - B. Fluid Management Log**
  - C. Hourly Log**
  - D. Supply Inventory Log**

## Answers

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

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## **Explanations**

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## 1. What color is utilized for fuel oil hand wheels?

- A. Yellow**
- B. Dark blue**
- C. Light purple**
- D. Striped black and yellow**

The correct answer is yellow, as it is the standard color used for fuel oil hand wheels in industrial settings. This is part of a broader color-coding system employed in many facilities to help workers easily identify different types of equipment and their functions. Yellow specifically signifies caution and is widely recognized for indicating fuel-related components, which helps to enhance safety measures by drawing attention to potential hazards associated with handling fuel oil. By using yellow, it creates a uniform recognition among workers, allowing them to quickly and accurately identify the equipment they need to operate or service, thus promoting operational efficiency and safety in the workplace.

## 2. What is the primary cause of corrosion in metals?

- A. Mechanical stress applied to metals**
- B. The electrochemical reaction between the metal and its environment**
- C. Temperature changes in the environment**
- D. The presence of specific alloys in the metals**

The primary cause of corrosion in metals is the electrochemical reaction between the metal and its environment. This process typically involves the metal reacting with moisture, oxygen, and various electrolytes present in the environment. When these elements come into contact with the metal surface, they can lead to the formation of corrosion cells, where the metal loses electrons (oxidation) and transforms into metal ions. This transformation compromises the integrity and structure of the metal. Moist environments are particularly conducive to corrosion, as water acts as an electrolyte, facilitating the electrochemical reactions. Additionally, impurities such as salts can accelerate these reactions by enhancing conductivity. This is why understanding the principles of electrochemistry is crucial for preventing corrosion and protecting metal surfaces through various methods, such as coatings or cathodic protection. Other factors like mechanical stress, temperature fluctuations, and the presence of specific alloys can contribute to the corrosion process or influence its rate, but they are not the primary driving force. Instead, it is the fundamental electrochemical interaction between the metal and its surrounding environment that is the key factor in corrosion occurrences.

### 3. Where are safety chains required to be installed?

- A. At the entrance of all rooms
- B. Elevator openings, walkways, deck edges, hatches**
- C. Only on personal protective equipment
- D. In storage areas for tools and equipment

Safety chains are specifically required to be installed at locations that pose potential hazards or where there is a risk of falling or unintended access. This includes elevator openings, walkways, deck edges, and hatches. Each of these areas can present dangers that necessitate barriers to enhance safety and prevent accidents. For instance, at elevator openings, chains can prevent individuals from accidentally stepping into an unguarded elevator shaft. On walkways and deck edges, safety chains serve as a physical reminder and barrier to discourage individuals from getting too close to the edge, thereby reducing the risk of falls. Similarly, hatches can be particularly hazardous if left unguarded; safety chains help signal that caution should be exercised in those zones. The other options do not accurately reflect the primary purpose and typical installation requirements for safety chains in ensuring safety in environments where fall hazards exist.

### 4. What action is necessary if equipment parameters are exceeded?

- A. Ignore it
- B. Notify the engineering department
- C. Request the Commanding Officer's approval**
- D. Discontinue equipment use

When equipment parameters are exceeded, notifying the engineering department is a critical action to ensure safety and maintain operational integrity. The engineering department has the expertise to evaluate the situation and determine the necessary steps to address potential issues that could arise from continued operation under abnormal conditions. Engaging with the engineering team allows for a thorough assessment of the risks involved and helps in making informed decisions about whether to continue using the equipment, modify operational protocols, or halt operations altogether. Additionally, they may recommend inspections or repairs to prevent future occurrences. In the context of the other choices, ignoring the situation could lead to equipment failure or safety hazards, and requesting approval from a commanding officer would delay addressing the immediate risk. While discontinuing equipment use can be necessary, it's important to first assess the situation with the help of qualified personnel before taking such drastic measures.

**5. What is the primary purpose of the ORM program?**

- A. To minimize operational costs
- B. Increase the success chance of the mission**
- C. Ensure compliance with regulations
- D. Train personnel on safety procedures

The primary purpose of the ORM (Operational Risk Management) program is to increase the success chance of the mission. ORM is designed to proactively identify, assess, and manage risks associated with operations. By systematically addressing potential hazards before they impact a mission, ORM helps ensure that operations can be completed successfully and safely. This risk management approach enhances decision-making and helps prioritize actions that contribute to achieving mission objectives while minimizing adverse outcomes. The other options, while important in their own right, are secondary to the primary goal of ORM. Minimizing operational costs, ensuring compliance with regulations, and training personnel on safety procedures are all relevant aspects of overall operational management, but they serve the overarching aim of maintaining a successful and safe operational environment. In essence, if missions are planned and executed with risk management at the forefront, the likelihood of success increases significantly, which is the central tenet of the ORM program.

**6. What type of quick acting valve provides low flowing resistance and can be throttled?**

- A. Gate valve
- B. Butterfly valve**
- C. Plug valve
- D. Ball valve

The butterfly valve is known for its ability to provide low flowing resistance while also being easily adjustable, allowing for throttling. This type of valve features a disc that rotates in the flow path. When the disc is aligned with the flow, it offers minimal resistance, which is advantageous in applications requiring efficient fluid flow. Additionally, the construction enables precise modulation of flow rates. By adjusting the angle of the disc, operators can effectively control the volume of fluid passing through the valve. This makes butterfly valves highly suitable for applications where quick operation and flow control are paramount, such as in HVAC systems or large-scale water systems. In contrast, other valve types may not match the butterfly valve's combination of low flow resistance and throttling capability. For instance, gate valves are generally designed for either fully open or fully closed positions and are not intended for throttling. Similarly, while both plug and ball valves can provide efficient flow control, they typically offer higher flow resistance compared to butterfly valves when partially opened.

**7. What happens to an object in motion according to the principle of inertia?**

**A. It stops suddenly.**

**B. It remains in motion until acted upon.**

**C. It changes direction spontaneously.**

**D. It decreases speed without any force.**

The principle of inertia, as defined by Newton's First Law of Motion, states that an object in motion will remain in motion with the same speed and in the same direction unless acted upon by an external force. This means that if no net external force is applied to the object, it will continue its motion indefinitely. In the context of the question, this principle highlights that the object's state of motion remains constant; it doesn't inherently stop, change direction, or decrease speed without some form of external influence. Therefore, the answer accurately reflects this fundamental concept of physics, clearly illustrating the nature of objects in motion and their behavior under the influence of forces.

**8. What does the acronym PLC stand for in control engineering?**

**A. Programmable Logic Controller**

**B. Programmable Linear Converter**

**C. Power Line Communication**

**D. Passive Load Controller**

The acronym PLC stands for Programmable Logic Controller in control engineering. This device is integral to automation and control systems in various industrial applications. PLCs are designed to automatically control a range of machinery and processes by utilizing programmable software to manage input and output devices. Their flexibility and ability to be reprogrammed make PLCs exceptionally useful, as they can adapt to changes in machinery or process requirements without needing a complete hardware overhaul. Key functions of PLCs include monitoring sensor inputs, executing control logic (often based on real-time data), and providing output signals to control actuators like motors and valves, ensuring efficient operation of industrial processes. In contrast, other choices represent different concepts. For example, a Programmable Linear Converter is not a recognized term used in control engineering. Power Line Communication refers to a methodology for transmitting data over power lines, which serves a different purpose than that of PLCs. A Passive Load Controller usually pertains to devices managing electrical loads without active control mechanisms and does not align with the functions associated with programmable logic in an industrial context.

## 9. Why is frictional force important for movement?

- A. It allows objects to move freely without resistance.
- B. It is necessary for accelerating objects without force.
- C. It prevents slipping and aids in control during movement.**
- D. It increases the kinetic energy of moving objects.

Frictional force plays a crucial role in movement primarily because it prevents slipping and aids in control. When an object moves, friction is the force that acts between the surfaces in contact, allowing the object to grip the surface on which it moves. This grip is essential for various activities, such as walking, driving, or any situation where controlled movement is required. For example, without sufficient friction between shoe soles and the ground, a person might find it difficult to walk without slipping. Similarly, vehicles rely on friction between their tires and the road to accelerate, decelerate, and make turns safely. The other choices do not accurately capture the primary function of friction in facilitating effective movement. While friction does not enable objects to move freely (as suggested in the first choice), it is actually a resisting force that provides necessary traction. The idea that friction allows for acceleration without force is misleading; in fact, friction is indeed a force that must be managed during acceleration. Lastly, while friction does play a role in energy transformation (it's involved in converting kinetic energy), claiming that it directly increases the kinetic energy of moving objects does not reflect its fundamental role in enabling controlled movement.

## 10. Which log documents all fuels, lubricating oils, and freshwater on board?

- A. Daily Log
- B. Fluid Management Log
- C. Hourly Log**
- D. Supply Inventory Log

The appropriate document that records all fuels, lubricating oils, and freshwater on board is the Fluid Management Log. This log is specifically designed to track the quantities and usage of various fluids essential for vessel operations, including fuel and lubricants, helping ensure that sufficient supplies are maintained for safe and efficient functioning. The Daily Log is generally used to document operational activities and occurrences on a day-to-day basis, but it does not focus exclusively on fluid management. The Hourly Log often pertains to recording changes or measurements that occur on an hourly basis, such as equipment parameters or operational statuses, rather than managing stock levels of various essential fluids. The Supply Inventory Log could track all supplies on board but does not specifically target the ongoing management of fluids like the Fluid Management Log does, which is tailored for liquid resources specifically vital to the vessel's operations.

## 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://becc2.examzify.com>**

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

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