

CERTIFIED BIOMEDICAL EQUIPMENT TECHNICIAN (CBET) PRACTICE EXAM (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. If blood is seen in the catheter tubing of an intra-aortic balloon pump, what action should be taken?**
 - A. Blood in the tubing is normal
 - B. Catheter should be replaced before next use
 - C. Input gas should be increased to improve
 - D. The device should be removed from service immediately
- 2. What is a likely cause if a defibrillator is leaving marks on patients?**
 - A. Clinicians using too much conductive gel
 - B. Improper joules settings being used
 - C. Pitted paddles are being used
 - D. Defibrillator is set in synchronization mode
- 3. Which organization sets standards for electro-medical equipment?**
 - A. The American National Standards Institute (ANSI)
 - B. The International Electrotechnical Commission (IEC)
 - C. The Food and Drug Administration (FDA)
 - D. The National Institute of Health (NIH)
- 4. What is the likely cause of an inverted LEAD II EKG tracing on a patient monitor?**
 - A. Machine malfunction
 - B. Patient cable is damaged
 - C. Lead placement
 - D. Poor patient contact
- 5. What is a common document used to track maintenance schedules?**
 - A. Maintenance record
 - B. Service ledger
 - C. Inventory list
 - D. Operational manual

- 6. A negative pressure ventilation system is designed to do which of the following?**
- A. Provide adequate de-humidification of airborne contaminants
 - B. Eliminate unpleasant odors
 - C. Increase the air exchange rate
 - D. Minimize the spread of airborne contaminants
- 7. When using an SpO2 monitor, which of the following is the least likely cause for difficulty obtaining a reading on a patient?**
- A. The patient is very cold
 - B. The finger has nail polish
 - C. There is too much ambient light
 - D. The monitor has a noisy detection circuit
- 8. If a BMET receives multiple calls to repair equipment, which device should be repaired first?**
- A. Infusion controller
 - B. Intra-aortic balloon pump
 - C. ECG telemetry transmitter
 - D. Noninvasive blood pressure monitor
- 9. In terms of regulatory compliance, what is a key obligation for CBETs?**
- A. To provide training sessions to all staff
 - B. To ensure devices meet industry standards and regulations
 - C. To perform surgeries only with certified equipment
 - D. To manage hospital budgets
- 10. What emergency procedure must a biomedical technician be prepared to execute?**
- A. Performing surgery
 - B. Responding to a medical equipment failure during a procedure
 - C. Administering medication
 - D. Conducting patient assessments

Answers

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

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Explanations

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1. If blood is seen in the catheter tubing of an intra-aortic balloon pump, what action should be taken?

- A. Blood in the tubing is normal
- B. Catheter should be replaced before next use
- C. Input gas should be increased to improve
- D. The device should be removed from service immediately**

Seeing blood in the catheter tubing of an intra-aortic balloon pump is a critical situation that requires immediate attention. The presence of blood typically indicates a potential problem, such as a breach in the integrity of the catheter or issues related to the patient's vascular condition. When blood is observed, it suggests that the device may not be functioning properly, which poses significant risks to the patient, including potential complications from embolism or infection. In this scenario, the correct action is to remove the device from service immediately. This step is crucial to ensure the patient's safety and to prevent any further complications. Continuing to use a device that is showing signs of malfunction could lead to serious adverse effects, including failure of the pump's function or additional damage to the patient's vascular system. The other options do not adequately address the serious implications of encountering blood in the tubing. For instance, considering blood in the tubing as "normal" fails to recognize the potential for serious underlying issues. Replacing the catheter before the next use would not be sufficient action since the device can still compromise patient safety. Increasing input gas does not resolve the problem and could potentially exacerbate it if the device is already compromised. Removing the device from service is the safest and most responsible action to take in light of

2. What is a likely cause if a defibrillator is leaving marks on patients?

- A. Clinicians using too much conductive gel
- B. Improper joules settings being used
- C. Pitted paddles are being used**
- D. Defibrillator is set in synchronization mode

A defibrillator leaving marks on patients is most often attributed to the condition of the paddles being used. If the paddles have pitting or rough surfaces, they can create abrasions on the skin when applied with pressure during defibrillation. Pitted paddles do not distribute the energy as evenly as well-maintained ones, which can lead to localized heating and tissue irritation, resulting in visible marks such as burns or abrasions. In this context, using too much conductive gel can create a mess or reduce contact but is less likely to cause direct skin damage compared to the condition of the paddles themselves, while improper settings likely lead to ineffective shocks rather than skin marks. Synchronization mode is designed for specific use in cardiac rhythms and does not directly relate to skin damage. Overall, the integrity and condition of the paddles are crucial in ensuring patient safety and preventing undesirable skin marks.

3. Which organization sets standards for electro-medical equipment?

- A. The American National Standards Institute (ANSI)
- B. The International Electrotechnical Commission (IEC)**
- C. The Food and Drug Administration (FDA)
- D. The National Institute of Health (NIH)

The International Electrotechnical Commission (IEC) is recognized as the organization that sets international standards for electrical and electronic devices, including electro-medical equipment. The IEC develops and publishes standards that ensure safety, performance, and interoperability of medical devices globally. These standards are critical for manufacturers to comply with to ensure their products are safe for use in healthcare settings. In the context of electro-medical equipment, the IEC provides frameworks that address various aspects such as design, testing, and quality assurance, which are essential for ensuring the reliability and efficacy of such devices in clinical environments. By adhering to IEC standards, healthcare facilities can minimize risks associated with the use of electrical medical equipment and ensure patient safety. This makes the IEC a crucial entity in the biomedical field, particularly concerning devices that have electrical components.

4. What is the likely cause of an inverted LEAD II EKG tracing on a patient monitor?

- A. Machine malfunction
- B. Patient cable is damaged
- C. Lead placement**
- D. Poor patient contact

An inverted LEAD II EKG tracing is most commonly caused by incorrect lead placement. In a standard 12-lead EKG, LEAD II monitors the electrical activity of the heart between the right arm and left leg. If the leads are placed incorrectly—such as reversing their positions or placing them on areas of the body that do not correspond with the intended electrodes—it can result in an atypical EKG trace, including inversion. While other factors, such as lead disconnection or issues with cable integrity, could contribute to malfunctioning traces, lead placement remains the primary factor influencing the direct representation of heart activity on the monitor. Therefore, ensuring accurate lead placement is crucial for obtaining a reliable EKG reading. Understanding this concept is vital for anyone engaged in monitoring patient heart rhythms.

5. What is a common document used to track maintenance schedules?

- A. Maintenance record**
- B. Service ledger
- C. Inventory list
- D. Operational manual

A maintenance record is a vital document used in healthcare facilities to track the maintenance schedules of biomedical equipment. This document typically includes details such as equipment type, service dates, maintenance tasks performed, and any issues encountered during operation. By maintaining this record, healthcare facilities can ensure compliance with safety standards, manage resources effectively, and foresee potential equipment failures by keeping systematic logs of past maintenance activities. While a service ledger could also be used to track services rendered, it is generally more focused on transactions rather than the routine maintenance schedules of medical devices. An inventory list pertains to the stock and availability of equipment and supplies rather than their maintenance status. An operational manual serves as a guide for operating equipment safely and effectively but does not track maintenance timelines. Thus, the maintenance record is the most relevant document in this context.

6. A negative pressure ventilation system is designed to do which of the following?

- A. Provide adequate de-humidification of airborne contaminants
- B. Eliminate unpleasant odors
- C. Increase the air exchange rate

D. Minimize the spread of airborne contaminants

A negative pressure ventilation system is specifically designed to minimize the spread of airborne contaminants. This type of system operates by creating a vacuum effect within a designated area, which helps to ensure that air from the outside (and any potential contaminants) is drawn into the area only under controlled circumstances. By maintaining a lower pressure in the specific space compared to surrounding areas, it prevents contaminated air from escaping into adjacent spaces, thus reducing the risk of transmission of airborne infections or pollutants. The other options, while relevant to various ventilation systems or air quality measures, do not specifically capture the primary function of a negative pressure system. For instance, eliminating unpleasant odors or providing de-humidification may be secondary effects or relate more to other types of ventilation systems aimed at improving overall air quality, but they are not the core purpose of a negative pressure ventilation system. Similarly, increasing the air exchange rate is more related to positive pressure systems or standard ventilation but does not directly relate to the unique characteristics of negative pressure systems.

7. When using an SpO2 monitor, which of the following is the least likely cause for difficulty obtaining a reading on a patient?

- A. The patient is very cold
- B. The finger has nail polish
- C. There is too much ambient light

D. The monitor has a noisy detection circuit

The least likely cause for difficulty obtaining a reading on a patient using an SpO2 monitor is related to a noisy detection circuit in the monitor. SpO2 monitors are designed to filter out background noise and interference during the signal processing, allowing them to function effectively even in less-than-ideal conditions. When the detection circuit operates properly, it can maintain accuracy and reliability across most environments. In contrast, factors like a very cold patient can result in reduced peripheral blood flow, leading to poor sensor performance. Nail polish can absorb or alter the light transmission necessary for accurate readings, affecting the sensor's ability to detect the hemoglobin saturation. Excessive ambient light can interfere with the photodetector's ability to distinguish the emitted light from the surrounding environment, making it challenging to obtain an accurate SpO2 reading. Thus, while the other choices directly impact the sensor's performance and reading accuracy, a noisy detection circuit is less likely to be a significant barrier, provided the monitor is functioning correctly.

8. If a BMET receives multiple calls to repair equipment, which device should be repaired first?

- A. Infusion controller
- B. Intra-aortic balloon pump**
- C. ECG telemetry transmitter
- D. Noninvasive blood pressure monitor

When determining which medical device to repair first, priority should be given based on the potential impact on patient safety and the critical nature of the equipment's function. The intra-aortic balloon pump holds the highest priority among the listed devices due to its crucial role in supporting heart function, particularly in patients with severe cardiac conditions. This device is pivotal for patients experiencing shock or severe heart failure, as it helps increase blood flow and decrease the workload on the heart by inflating and deflating in sync with the heart's rhythm. If this device fails or is not operational, it can lead to serious and immediate health risks for the patient. In contrast, while all the devices listed are important for patient care, they vary in urgency. For instance, the infusion controller is crucial for delivering medications, and improper monitoring can have severe effects, but it may not have the same immediate risk as a malfunctioning intra-aortic balloon pump. Similarly, noninvasive blood pressure monitors and ECG telemetry transmitters provide essential data and monitoring, but their failure may not be as acute in the short term compared to a device that directly assists heart function. Thus, the intra-aortic balloon pump is prioritized due to its direct and critical impact on the stabilization and management of

9. In terms of regulatory compliance, what is a key obligation for CBETs?

- A. To provide training sessions to all staff
- B. To ensure devices meet industry standards and regulations**
- C. To perform surgeries only with certified equipment
- D. To manage hospital budgets

A key obligation for Certified Biomedical Equipment Technicians (CBETs) involves ensuring that medical devices comply with industry standards and regulations. This responsibility is critical because medical devices are subject to strict regulatory scrutiny to ensure safety and efficacy for patient care. CBETs play a vital role in managing the lifecycle of medical equipment, including installation, maintenance, and safety checks that align with the regulations set forth by agencies such as the FDA in the United States. Meeting these standards is essential as it establishes trust in the healthcare system, protects patient safety, and avoids potential legal and financial repercussions for healthcare facilities. A thorough understanding of the relevant regulatory frameworks, such as ISO standards or the Medical Device Regulation (MDR), is necessary for CBETs to effectively perform their duties. While the other options may involve important tasks in the broader scope of hospital operations, they do not specifically align with the regulatory compliance focus of CBETs. Providing training sessions is beneficial but not a regulatory obligation. Performing surgeries pertains to medical professionals, while managing hospital budgets falls under administrative roles. Thus, ensuring that devices meet industry standards and regulations remains the central obligation of CBETs in the context of regulatory compliance.

10. What emergency procedure must a biomedical technician be prepared to execute?

- A. Performing surgery
- B. Responding to a medical equipment failure during a procedure**
- C. Administering medication
- D. Conducting patient assessments

Biomedical technicians play a crucial role in ensuring that medical equipment functions safely and effectively in a clinical setting. When medical equipment fails during a procedure, it can jeopardize patient safety, making it essential for the technician to respond quickly and efficiently to address the issue. This involves assessing the situation, troubleshooting the problem, and either repairing the equipment on the spot or ensuring that a backup device is available and operational. The ability to respond effectively to medical equipment failures is not just about fixing a device; it also entails understanding the implications of such failures on patient care and being ready to implement emergency protocols to minimize risk. This may include notifying medical staff, ensuring alternative solutions are in place, and maintaining a safe environment for the patient. In contrast, the other choices are outside the typical responsibilities of a biomedical technician. Performing surgery, administering medication, and conducting patient assessments are tasks that require specialized training and licensure, typically relegated to medical professionals like surgeons, pharmacists, and nurses. Hence, the most relevant emergency procedure for a biomedical technician involves promptly addressing equipment failures to support the medical team and safeguarding patient health.

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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