

Certified Biomedical Equipment Technician (CBET) Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

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

SAMPLE

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

SAMPLE

- 1. What does the acronym FDA stand for?**
 - A. Food and Drug Authority**
 - B. Food and Drug Administration**
 - C. Federal Drug Agency**
 - D. Food Distribution Agency**

- 2. What kind of radiation is emitted by an isotope from the body during a nuclear medicine study?**
 - A. X-Rays**
 - B. Alpha Rays**
 - C. Beta Rays**
 - D. Gamma Rays**

- 3. What is the first step to check when patient monitor vital signs are not displaying on the central station?**
 - A. Recycle the power on the central station**
 - B. Check the connectivity between the acquisition module and the main monitor**
 - C. Make sure the CAT 5/6 cable is securely connected to the monitor and wall**
 - D. Check the configuration on the monitor**

- 4. What is an essential component of a biomedical technician's knowledge regarding software?**
 - A. Programming new software applications**
 - B. Understanding software updates and their impact**
 - C. Designing user interfaces for medical software**
 - D. Managing software licenses for the organization**

- 5. What is the primary role of a Certified Biomedical Equipment Technician (CBET)?**
 - A. To perform surgeries on medical devices**
 - B. To maintain, repair, and manage medical equipment**
 - C. To conduct clinical trials for new medical equipment**
 - D. To train healthcare personnel on equipment use**

6. What parameter determines the maximum energy emitted from the x-ray tube and refers to beam quality?

- A. mA**
- B. kVp**
- C. Time**
- D. Distance**

7. What safety device is essential for protecting patients from electrical shock?

- A. Surge protector**
- B. Ground fault circuit interrupter**
- C. Isolation transformer**
- D. Voltage regulator**

8. Which of the following is the value of test load resistance used by most defibrillator testers to simulate external patient impedance?

- A. 50 Ohms**
- B. 75 Ohms**
- C. 100 Ohms**
- D. 150 Ohms**

9. What is a possible cause for a tourniquet cuff taking too long to inflate?

- A. Internal tubing has a leak**
- B. Cuff is too tight on the patient's limb**
- C. Patient's limb is too large for the cuff**
- D. Pressure transducer needs to be recalibrated**

10. What is a likely cause for a water-cooled dye laser shutting off during a procedure?

- A. Laser has been running too long**
- B. Dye in the laser needs to be changed**
- C. Foot pedal was depressing too long**
- D. Water flow to the laser was interrupted**

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What does the acronym FDA stand for?

- A. Food and Drug Authority
- B. Food and Drug Administration**
- C. Federal Drug Agency
- D. Food Distribution Agency

The acronym FDA stands for Food and Drug Administration. This organization is a crucial part of the United States Department of Health and Human Services and is responsible for protecting public health by ensuring the safety, efficacy, and security of various products, including food, pharmaceuticals, medical devices, cosmetics, and more. The FDA plays a vital role in regulating these products to help ensure that they are safe for consumption or use by the public. Understanding the full name and purpose of the FDA is important for professionals in the biomedical field, as it provides context for regulatory requirements and compliance for medical devices and other healthcare products. This knowledge is essential for a Certified Biomedical Equipment Technician (CBET) because it helps technicians maintain standards and practices that comply with FDA regulations, ultimately ensuring patient safety and care quality.

2. What kind of radiation is emitted by an isotope from the body during a nuclear medicine study?

- A. X-Rays
- B. Alpha Rays
- C. Beta Rays
- D. Gamma Rays**

During a nuclear medicine study, the isotope used typically emits gamma rays. Gamma rays are a form of electromagnetic radiation that have high energy and can easily pass through the human body, making them ideal for imaging technologies such as PET scans and SPECT scans. The emitted gamma radiation can be detected by specialized cameras, allowing for the visualization of internal structures and activities in the body. Gamma rays are often chosen for these applications because they have a relatively long half-life, allowing for adequate imaging time while minimizing radiation exposure to the patient. Additionally, their penetrating ability enables them to be picked up by external detectors, providing high-quality images with good contrast. In contrast, alpha rays consist of heavy particles that are less penetrative and are typically not useful for imaging purposes within the body. Beta rays, while able to penetrate tissue more than alpha particles, are still less favorable for imaging compared to gamma rays due to their interaction with matter and the fact that they can be absorbed by surrounding tissues. X-rays, while also used in medical imaging, are not emitted by radioisotopes during a nuclear medicine study but rather generated by interactions involving electrons outside the nucleus. Therefore, gamma rays are the correct answer as they are the specific radiation type emitted by isotopes used in nuclear

3. What is the first step to check when patient monitor vital signs are not displaying on the central station?

- A. Recycle the power on the central station**
- B. Check the connectivity between the acquisition module and the main monitor**
- C. Make sure the CAT 5/6 cable is securely connected to the monitor and wall**
- D. Check the configuration on the monitor**

When dealing with a situation where patient monitor vital signs are not displaying on the central station, checking the configuration on the monitor is a critical first step. This is because the monitor itself must be properly set up to communicate with the central station. If the settings or configuration options are not correctly configured to send data to the central station, it can prevent vital signs from being transmitted or displayed.

Configuration settings may include ensuring that the correct patient settings, communication protocols, or network parameters are in place. Proper configuration also ensures that alarms and alerts are set appropriately, which are essential for effective patient monitoring. While checking connectivity or cables is important, these actions typically come after establishing that the monitor is set up correctly. An incorrect configuration could lead to miscommunication, rendering subsequent troubleshooting efforts regarding physical connections or power recycling ineffective if the source of the issue is not addressed first.

4. What is an essential component of a biomedical technician's knowledge regarding software?

- A. Programming new software applications**
- B. Understanding software updates and their impact**
- C. Designing user interfaces for medical software**
- D. Managing software licenses for the organization**

Understanding software updates and their impact is a critical component of a biomedical technician's knowledge because it directly affects the functionality and reliability of medical devices. Software updates can include crucial patches that enhance security, improve performance, and fix bugs. A biomedical technician must be well-versed in identifying which updates are necessary and how they can affect the devices they manage. This knowledge enables the technician to ensure that equipment is running optimally and that patient safety is maintained. Being aware of the implications of updates also involves understanding compliance with regulatory standards, verifying the compatibility of updates with existing systems, and evaluating the need for staff training on new features introduced by updates. This holistic grasp of the software lifecycle is essential in a healthcare environment, where the stakes involve patient care and safety.

5. What is the primary role of a Certified Biomedical Equipment Technician (CBET)?

- A. To perform surgeries on medical devices
- B. To maintain, repair, and manage medical equipment**
- C. To conduct clinical trials for new medical equipment
- D. To train healthcare personnel on equipment use

The primary role of a Certified Biomedical Equipment Technician (CBET) is to maintain, repair, and manage medical equipment. This responsibility is crucial in ensuring that medical devices function correctly and safely, which directly impacts patient care and safety. The CBET's expertise allows them to perform preventive maintenance, troubleshoot issues, and carry out repairs, ensuring that healthcare facilities can rely on their equipment for accurate diagnostics and effective treatment. While training healthcare personnel on the use of equipment is an important aspect of the role, it does not encompass the full range of responsibilities held by a CBET. Additionally, conducting clinical trials and performing surgeries are specialized activities that fall outside the primary focus of a CBET, which is centered on equipment management and technical support rather than direct patient intervention or research activities. Therefore, the emphasis on maintenance and management of medical devices highlights the foundational role a CBET plays in the healthcare system.

6. What parameter determines the maximum energy emitted from the x-ray tube and refers to beam quality?

- A. mA
- B. kVp**
- C. Time
- D. Distance

The maximum energy emitted from the x-ray tube that refers to beam quality is determined by kVp, which stands for kilovolt peak. kVp controls the peak electrical potential applied across the x-ray tube, which directly affects the energy of the x-ray photons produced. Higher kVp results in higher energy photons, leading to better penetration and improved image quality in radiography. Understanding how kVp influences beam quality is essential for optimizing x-ray imaging. A high kVp setting allows more penetrating power for the x-rays, which is particularly important for imaging denser tissues. This means that the resulting x-ray beam can better differentiate between various types of tissues, enhancing diagnostic capabilities. In contrast, mA (milliamperes) affects the quantity of x-rays produced but does not influence energy quality directly. Time dictates the duration that the x-ray tube is active, impacting exposure but not the inherent energy of the beam. Distance influences the intensity of the x-ray beam as it travels from the source to the detector but does not change the quality of the beam itself. kVp is foundational in assessing and manipulating both the quality and penetrating ability of the x-ray beam in medical imaging.

7. What safety device is essential for protecting patients from electrical shock?

- A. Surge protector**
- B. Ground fault circuit interrupter**
- C. Isolation transformer**
- D. Voltage regulator**

The essential safety device for protecting patients from electrical shock is an isolation transformer. An isolation transformer is designed to decouple the power source from the medical equipment, effectively isolating the electrical supply from the device connected to it. This means that if there is a fault in the device, such as a short circuit, the electrical energy is kept from passing onto the patient, significantly reducing the risk of electrical shock. Isolation transformers are commonly used in medical environments to provide a safe and stable power supply, ensuring that any faults do not result in hazardous exposure to electrical currents for patients. Their design helps maintain patient safety while allowing sensitive medical equipment to operate effectively. Surge protectors, ground fault circuit interrupters, and voltage regulators are also important in protecting electrical systems, but they operate differently. Surge protectors safeguard against power surges, ground fault circuit interrupters (GFCIs) are designed to trip when they detect ground faults to prevent shocks, and voltage regulators help maintain consistent voltage levels. While these devices contribute to electrical safety, they do not provide the same level of protection against electrical shock to patients as isolation transformers do in a medical setting.

8. Which of the following is the value of test load resistance used by most defibrillator testers to simulate external patient impedance?

- A. 50 Ohms**
- B. 75 Ohms**
- C. 100 Ohms**
- D. 150 Ohms**

The value of test load resistance used by most defibrillator testers to simulate external patient impedance is commonly set at 50 Ohms. This is primarily for consistency and reliability in testing the performance of defibrillators. In clinical settings, the human body has an impedance that can vary, but it's standard to use 50 Ohms to provide a realistic simulation of the electrical resistance encountered during defibrillation. The choice of 50 Ohms reflects practical considerations in ensuring that the defibrillator can deliver the appropriate energy levels as would be required in real-world situations. By using this standard resistance, technicians can verify that the defibrillator functions correctly and delivers the intended shock energy effectively, as it mimics the conditions present when treating a patient.

9. What is a possible cause for a tourniquet cuff taking too long to inflate?

- A. Internal tubing has a leak**
- B. Cuff is too tight on the patient's limb**
- C. Patient's limb is too large for the cuff**
- D. Pressure transducer needs to be recalibrated**

A tourniquet cuff taking too long to inflate can be attributed to a leak in the internal tubing. When there is a leak, the system loses pressure, which prevents the cuff from inflating properly or in a timely manner. This means that even if air is being pumped into the cuff, a portion of that air escapes through the leak, leading to inadequate pressure buildup. In contrast, if the cuff is too tight on the patient's limb, it could potentially cause discomfort but would not inherently affect the inflation time unless it causes the system to malfunction. Similarly, if the patient's limb is too large for the cuff, it may not inflate adequately to occlude blood flow, but again, this would not typically delay the inflation; it might just result in improper compression. Recalibrating the pressure transducer may enhance accuracy but wouldn't directly impact the time it takes for the cuff to inflate if there's an underlying leak. Thus, identifying a leak in the internal tubing is essential in diagnosing prolonged inflation times effectively.

10. What is a likely cause for a water-cooled dye laser shutting off during a procedure?

- A. Laser has been running too long**
- B. Dye in the laser needs to be changed**
- C. Foot pedal was depressing too long**
- D. Water flow to the laser was interrupted**

The correct answer focuses on the importance of maintaining adequate cooling for a water-cooled dye laser during operation. Dye lasers generate significant amounts of heat when producing laser light, and this heat must be dissipated efficiently to prevent overheating and ensure safe operation. If the water flow to the laser is interrupted, the cooling system can no longer effectively remove heat from the laser's components. As a result, the laser may automatically shut off to protect itself from damage due to excessive heat buildup. This automatic shutdown is a critical safety feature designed to prevent overheating, which can lead to malfunction or permanent damage to the laser system. The other potential causes listed do not directly relate to the operational safety and functionality of the cooling system. For instance, while running the laser for an extended period without appropriate cooling can lead to heat issues, it is the interruption of water flow that triggers the immediate shutdown response. Likewise, changing the dye only affects the performance of the laser's light output, and issues with the foot pedal generally relate more to user control than to the operational integrity of the laser itself. Thus, the interruption of water flow is the most plausible cause for the laser's shutdown during a procedure.

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:

<https://cbet.examzify.com>

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

SAMPLE