

BIOMEDICAL EQUIPMENT TECHNICIAN (BMET) CDC SET A VOLUME 5 PRACTICE EXAM (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. Which organization is responsible for setting standards for the electrical safety of medical devices?**
 - A. The American National Standards Institute (ANSI)
 - B. The Food and Drug Administration (FDA)
 - C. The Institute of Electrical and Electronics Engineers (IEEE)
 - D. The International Electrotechnical Commission (IEC)
- 2. Which organization also oversees medical devices, in addition to the FDA?**
 - A. The World Health Organization (WHO)
 - B. The International Organization for Standardization (ISO)
 - C. The Centers for Disease Control and Prevention (CDC)
 - D. The National Institutes of Health (NIH)
- 3. What is the primary purpose of using a flywheel in a rotary uninterruptable power supply?**
 - A. Provides temporary kinetic energy until the generator warms up
 - B. Starts the onboard motor during power loss
 - C. Provides clean power by limiting noise interference
 - D. Recharges the backup battery bank
- 4. What component in an environmental control unit (ECU) is responsible for taking low-pressure, low-temperature refrigerant and delivering high-pressure refrigerant to the condenser?**
 - A. Thermostatic expansion valve (TEV)
 - B. Charging valve
 - C. Quench valve
 - D. Compressor
- 5. Which type of transformer provides a steady secondary voltage from no load to full load?**
 - A. Current
 - B. Constant-current
 - C. Varying-potential
 - D. Constant-potential

- 6. What role does the facility manager play in a medical facility?**
- A. Oversees the maintenance team
 - B. Responsible for compliance with safety standards
 - C. Coordinates medical logistics
 - D. Manages environmental impact of operations
- 7. How are circuit breakers typically rated?**
- A. Size and volts
 - B. Poles and volts
 - C. Poles and amperes
 - D. Volts and amperes
- 8. What type of equipment would typically be found in a biomedical workshop?**
- A. Calibration devices
 - B. Filing cabinets
 - C. Audio equipment
 - D. Office supplies
- 9. What component of an MRI machine is critical for patient safety?**
- A. The imaging software
 - B. The magnetic field strength and patient monitoring systems
 - C. The cooling system
 - D. The rotating magnet
- 10. How often do the back-up oxygen (O₂) cylinders in the Deployable Oxygen Generation System - medium (DOGS-M) require hydrostatic testing?**
- A. Every 10 years
 - B. Every 6 years
 - C. Every 2 years
 - D. Every year

Answers

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

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Explanations

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1. Which organization is responsible for setting standards for the electrical safety of medical devices?

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

The organization responsible for setting standards for the electrical safety of medical devices is the Institute of Electrical and Electronics Engineers (IEEE). The IEEE develops and publishes standards that address various aspects of electrical and electronic devices, including safety protocols essential for ensuring the reliable operation of medical equipment. These standards help protect patients and healthcare providers by minimizing risks associated with electrical failures, ensuring that devices are safe to use in clinical environments. The role of IEEE extends beyond just medical devices; it encompasses a wide range of electrical and electronic engineering disciplines. The organization's collaborative approach facilitates the development of common safety standards that can be adopted globally, making them crucial for manufacturers and biomedical equipment technicians. While other organizations, such as the American National Standards Institute (ANSI), the Food and Drug Administration (FDA), and the International Electrotechnical Commission (IEC), are also involved in aspects of medical device regulation and standardization, IEEE's specific focus on electrical engineering standards makes it a key player in establishing guidelines for electrical safety in medical devices. ANSI serves as a coordinator for the development of voluntary consensus standards but does not focus exclusively on electrical safety. The FDA is primarily concerned with the regulatory oversight of medical devices to ensure safety and efficacy rather than setting specific engineering standards, while the IEC also deals with international electrical

2. Which organization also oversees medical devices, in addition to the FDA?

- A. The World Health Organization (WHO)
- B. The International Organization for Standardization (ISO)**
- C. The Centers for Disease Control and Prevention (CDC)
- D. The National Institutes of Health (NIH)

The International Organization for Standardization (ISO) plays a crucial role in the oversight of medical devices by establishing global standards that ensure the quality, safety, and efficiency of these devices. ISO develops guidelines that manufacturers must follow, addressing various aspects of medical devices including design, manufacturing, testing, and performance. These standards help facilitate international trade and provide a framework for regulatory compliance across different countries. While the FDA is responsible for the approval and regulation of medical devices within the United States, ISO's standards are used worldwide, impacting how devices are developed and marketed internationally. This cooperation between national regulatory bodies like the FDA and global organizations such as ISO is essential for ensuring that medical devices meet stringent safety and effectiveness criteria before they reach the market. The other organizations listed, while influential in public health and safety, do not specifically focus on the standardization and regulatory framework for medical devices in the same comprehensive manner as ISO.

3. What is the primary purpose of using a flywheel in a rotary uninterruptable power supply?

- A. Provides temporary kinetic energy until the generator warms up**
- B. Starts the onboard motor during power loss
- C. Provides clean power by limiting noise interference
- D. Recharges the backup battery bank

The primary purpose of using a flywheel in a rotary uninterruptable power supply (UPS) is to provide temporary kinetic energy until the generator warms up. In scenarios where there is a sudden loss of power, the flywheel can maintain the momentum and supply power momentarily until the backup generator reaches a stable operating speed and can take over the load. This is crucial in ensuring an uninterrupted power supply to connected devices, especially those sensitive to power fluctuations or interruptions. Using a flywheel allows the system to respond quickly and efficiently during power outages, making it an integral component of rotary UPS systems. Its ability to store kinetic energy helps mitigate the effects of power loss until a more stable power source is available, demonstrating a critical function in maintaining operational continuity in environments where power is vital.

4. What component in an environmental control unit (ECU) is responsible for taking low-pressure, low-temperature refrigerant and delivering high-pressure refrigerant to the condenser?

- A. Thermostatic expansion valve (TEV)
- B. Charging valve
- C. Quench valve
- D. Compressor**

The component in an environmental control unit (ECU) responsible for taking low-pressure, low-temperature refrigerant and delivering high-pressure refrigerant to the condenser is the compressor. The compressor plays a crucial role in the refrigeration cycle by compressing the refrigerant gas. When the refrigerant enters the compressor, it is in a low-pressure state. The compressor increases the pressure and temperature of the refrigerant, transforming it into a high-pressure gas. This high-pressure refrigerant is then directed to the condenser, where it undergoes further cooling and condensation into a liquid. In summary, the compressor is essential for moving the refrigerant through the system by raising its pressure, enabling it to flow into the condenser effectively. This function is pivotal for maintaining the thermodynamic cycle of the ECU to ensure efficient cooling and environmental control.

5. Which type of transformer provides a steady secondary voltage from no load to full load?

- A. Current
- B. Constant-current
- C. Varying-potential
- D. Constant-potential**

The type of transformer that provides a steady secondary voltage from no load to full load is a constant-potential transformer. This type is specifically designed to maintain a relatively constant output voltage regardless of the load variations. In applications where stable voltage is crucial, such as in medical equipment, constant-potential transformers ensure that devices receive a reliable power supply. When a constant-potential transformer operates, it adjusts to load changes without significant fluctuations in voltage. This steady performance is important for sensitive devices that require consistent power to function correctly, as voltage variations can affect performance and potentially harm the equipment. In contrast, other transformer types, such as current or constant-current transformers, have their own distinct functionalities and typically do not focus on providing a steady voltage under varying load conditions. Similarly, varying-potential transformers do not maintain a constant output voltage and can fluctuate with load. Therefore, the design and functionality of a constant-potential transformer make it the ideal choice for applications needing stable voltage output.

6. What role does the facility manager play in a medical facility?

- A. Oversees the maintenance team**
- B. Responsible for compliance with safety standards
- C. Coordinates medical logistics
- D. Manages environmental impact of operations

The facility manager in a medical facility plays a crucial role in overseeing various operational aspects of the facility, which includes managing the maintenance team. This responsibility is integral to ensuring that the environment is safe, efficient, and conducive to delivering quality healthcare. A facility manager ensures that all equipment, systems, and physical infrastructure are functioning properly and are well-maintained, which directly affects the overall safety and comfort of patients and staff. While compliance with safety standards, coordination of medical logistics, and management of environmental impact are significant responsibilities within a medical facility, they often fall under the broader responsibilities encompassed by the facility manager's role. Coordinating efforts across these domains is essential for the facility manager, but the primary duty of overseeing the maintenance team highlights the operational focus and hands-on management style that is critical in a healthcare setting. Thus, the emphasis on maintenance aligns well with the core functions of a facility manager.

7. How are circuit breakers typically rated?

- A. Size and volts
- B. Poles and volts
- C. Poles and amperes
- D. Volts and amperes**

Circuit breakers are typically rated based on their capacity to handle voltage and current, which are expressed in volts and amperes. Voltage rating indicates the maximum voltage that the circuit breaker can operate safely, while the amperage rating indicates the maximum current it can carry without tripping. This is crucial for ensuring the protection of electrical circuits from overcurrents, which can cause damage or pose safety hazards. In practical applications, knowing both the voltage and amperes allows technicians and engineers to select the appropriate circuit breaker for specific applications, ensuring that electrical devices and systems operate within safe limits. The voltage rating must be high enough to handle the circuit's voltage, while the amperage rating must match the expected load to prevent nuisance tripping while still providing protection against overloads.

8. What type of equipment would typically be found in a biomedical workshop?

- A. Calibration devices**
- B. Filing cabinets
- C. Audio equipment
- D. Office supplies

In a biomedical workshop, calibration devices are essential tools used to ensure that medical equipment operates within specified parameters and maintains accuracy. These devices play a critical role in the routine maintenance and quality assurance of various biomedical equipment, such as imaging machines, patient monitors, and therapeutic devices. By calibrating these instruments, technicians can confirm that they perform reliably and safely, which is vital for patient care and treatment efficacy. The presence of calibration devices in a workshop reflects the industry's focus on compliance with regulatory standards and maintaining high-quality health care services. Effective calibration ultimately helps in preventing potential errors and improving patient outcomes. Other items, while useful in different contexts, do not serve the direct purpose of maintaining or verifying the operational integrity of biomedical equipment.

9. What component of an MRI machine is critical for patient safety?

- A. The imaging software
- B. The magnetic field strength and patient monitoring systems**
- C. The cooling system
- D. The rotating magnet

The magnetic field strength and patient monitoring systems are critical components for patient safety in an MRI machine. The magnetic field generated by the MRI can pose risks if not properly managed, especially for patients with certain implants or medical devices that can be affected by strong magnetic fields. It is essential that the magnetic field strength is appropriate for the specific MRI application, as excessive field strength can lead to dangerous interactions. Moreover, patient monitoring systems play a vital role in ensuring the safety and well-being of individuals undergoing the procedure. These systems allow technicians to continuously assess the patient's condition during the MRI scan, providing real-time data on vital signs and allowing for immediate response to any adverse reactions or distress. This combined focus on the strength of the magnetic field and vigilant monitoring ensures a safer environment for patients receiving MRI diagnostics.

10. How often do the back-up oxygen (O₂) cylinders in the Deployable Oxygen Generation System - medium (DOGS-M) require hydrostatic testing?

A. Every 10 years

B. Every 6 years

C. Every 2 years

D. Every year

The back-up oxygen cylinders in the Deployable Oxygen Generation System - medium (DOGS-M) require hydrostatic testing every 10 years. This testing is crucial for ensuring the safety and integrity of high-pressure gas cylinders. During hydrostatic testing, the cylinder is filled with a non-compressible liquid, usually water, and pressurized to check for leaks, deformation, and overall structural integrity. The 10-year interval is a standard established by regulatory agencies to balance the need for safety with the practicalities of cylinder use, reflecting the durability of the materials and constructions involved in these systems. Compliance with this testing schedule helps prevent failures that could arise from age-related degradation or material fatigue.

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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://bmetcdcsetavol5.examzify.com>

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

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