

Bioenvironmental Engineering (BEE) Block 9 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. Under the Safe Drinking Water Act, which regulation does it follow?**
 - A. Title XVI**
 - B. Title XIV**
 - C. Title XII**
 - D. Title XVIII**

- 2. What is the name of the flexible plastic sample container used in field applications for collection of chemical and radiological potable water analysis?**
 - A. Jerrican**
 - B. Bottle**
 - C. Cubitainer**
 - D. Bag-in-box**

- 3. In water distribution terminology, which term identifies biological agents that can cause disease and are a concern in water systems?**
 - A. Turbidity**
 - B. Dissolved Gases**
 - C. Hardness**
 - D. Pathogens**

- 4. The Agency Primacy Rules require regulations to be consistent with which federal regulation?**
 - A. 40 CFR Part 4**
 - B. 40 CFR Part 3**
 - C. 40 CFR Part 2**
 - D. 40 CFR Part 7**

- 5. If hard line piping is used, the pipes must be super chlorinated and fixed where?**
 - A. 0 to 1 foot above the ground**
 - B. 3 to 4 feet above the ground**
 - C. On the roof**
 - D. Behind the meter**

- 6. In the context of water safety, what is depicted as contamination?**
- A. High Hazard**
 - B. Low Hazard**
 - C. Moderate Hazard**
 - D. No Hazard**
- 7. Which device is a portable instrument that can identify many materials by comparing samples to a library?**
- A. Dippers**
 - B. The DR 900**
 - C. Alpha samplers**
 - D. HAZMATID Elite**
- 8. Which kit is designed to detect nerve, blister, cyanide (blood), or lewisite chemical warfare agents in water?**
- A. Water Quality Test Kit**
 - B. The M-272 Water Test Kit**
 - C. Nerve Agent Detector Kit**
 - D. VOCs Test Kit**
- 9. What instrument is used to test the chemical purity of water by measuring the amount of dissolved solids?**
- A. Conductivity Meter**
 - B. pH Meter**
 - C. Turbidity Meter**
 - D. Spectrophotometer**
- 10. Dissolved Gases in water depend on the chemical characteristics of the gas, atmospheric concentration, pressure, and temperature.**
- A. Dissolved Gases**
 - B. Pathogens**
 - C. Turbidity**
 - D. Acidity**

Answers

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

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Explanations

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1. Under the Safe Drinking Water Act, which regulation does it follow?

- A. Title XVI**
- B. Title XIV**
- C. Title XII**
- D. Title XVIII**

The regulation for the Safe Drinking Water Act sits within Title XIV of the Public Health Service Act. This part of the act establishes the framework for protecting drinking water, giving the EPA authority to set national drinking water standards, oversee water systems, and enforce compliance to keep public water safe. Other titles listed cover different health-related areas and don't pertain to drinking water, so they aren't the regulatory basis for the SDWA.

2. What is the name of the flexible plastic sample container used in field applications for collection of chemical and radiological potable water analysis?

- A. Jerrican**
- B. Bottle**
- C. Cubitainer**
- D. Bag-in-box**

In field sampling for chemical and radiological potable water analyses, a container that is lightweight, flexible, and designed to minimize changes in the sample during transport is key. A cubitainer fits this need because it uses a flexible plastic bag inside a protective outer container. As you fill it, the bag expands and the air headspace is minimized, which helps prevent loss of volatile components and reduces contamination or interaction with the container walls. The interior material is chosen for compatibility with a wide range of analytes, making it suitable for both chemical and radiological testing, and the outer shell provides durability for field use. Other options are less ideal in this context. A jerrican is bulky and rigid, making field handling and transport harder and increasing the risk of interactions with the sample. A bottle is also rigid and can be more susceptible to breakage or surface contact that might affect results. Bag-in-box is more of a packaging format rather than a dedicated sampling container and may not meet the stringent integrity requirements for potable water radiological analyses.

3. In water distribution terminology, which term identifies biological agents that can cause disease and are a concern in water systems?

- A. Turbidity**
- B. Dissolved Gases**
- C. Hardness**
- D. Pathogens**

Biological safety in water systems centers on the organisms that can cause illness. The term that identifies these disease-causing biological agents is pathogens, including bacteria, viruses, protozoa, and parasites that may contaminate water and are the key targets of disinfection and treatment. Turbidity describes cloudiness from suspended particles, not the agents themselves; dissolved gases are about gases in solution and affect odor, taste, and corrosion; hardness relates to mineral content and scaling. So pathogens best captures the concept of biological disease-causing agents in water systems.

4. The Agency Primacy Rules require regulations to be consistent with which federal regulation?

- A. 40 CFR Part 4**
- B. 40 CFR Part 3**
- C. 40 CFR Part 2**
- D. 40 CFR Part 7**

Agency Primacy Rules are about making sure any regulation the agency issues fits within the standard procedures the agency uses for rulemaking and public involvement. The federal regulation that establishes those general procedures for EPA actions sets how notices are issued, how the public can participate, and how hearings are conducted. Requiring consistency with these procedures ensures a uniform, fair, and transparent process across all regulatory actions. The other parts address more specific topics like information access or handling of records, not the broad procedural framework that primacy rules rely on.

5. If hard line piping is used, the pipes must be super chlorinated and fixed where?

- A. 0 to 1 foot above the ground**
- B. 3 to 4 feet above the ground**
- C. On the roof**
- D. Behind the meter**

Disinfecting hard line piping requires keeping the exposed piping accessible for maintaining, sampling, and verifying chlorine residuals. Placing the pipes about 3 to 4 feet above the ground provides a practical balance: they're high enough to stay out of splashes, floods, soil contamination, and everyday wear, yet still low enough to be easily accessed by maintenance staff for super chlorination and inspection. This height also helps deter tampering and keeps test taps and sampling points reachable without crawling or climbing. Choosing a height lower to ground level increases risk of damage, contamination, and accidental contact; placing piping on the roof introduces weather exposure and difficult access for routine chlorination; routing behind the meter can hinder routine maintenance and sampling.

6. In the context of water safety, what is depicted as contamination?

A. High Hazard

B. Low Hazard

C. Moderate Hazard

D. No Hazard

In water safety, contamination is shown by a high hazard level because it reflects the presence of harmful substances or pathogens that significantly increase health risk. When contaminants are present at levels that pose a real threat, the water is labeled as having high hazard, signaling that protective actions are needed (treatment, avoidance, or advisories). Lower hazard levels imply some contamination but at much lesser risk, while no hazard means the water is clean with no contamination. So depicting contamination as high hazard best communicates the serious risk and the urgency of response.

7. Which device is a portable instrument that can identify many materials by comparing samples to a library?

A. Dippers

B. The DR 900

C. Alpha samplers

D. HAZMATID Elite

Identifying a wide range of unknown materials on the spot by comparing what you measure to a library of known substances is what a portable spectroscopic identification device is all about. The HAZMATID Elite is built for this purpose: it's a handheld instrument that analyzes a sample and then matches the obtained spectrum to a built-in (or cloud) library of reference spectra to name the substance. This library-matching capability is what lets it identify many different materials quickly in the field, which is essential for hazmat response. Dippers, by contrast, are simple sampling tools used to collect material for later laboratory analysis—they don't identify substances on-site. The DR 900 and Alpha samplers are different kinds of field instruments that don't primarily rely on comparing spectra to a broad library to identify a wide range of unknown materials.

8. Which kit is designed to detect nerve, blister, cyanide (blood), or lewisite chemical warfare agents in water?

A. Water Quality Test Kit

B. The M-272 Water Test Kit

C. Nerve Agent Detector Kit

D. VOCs Test Kit

In field detection of chemical warfare agents in water, you need a kit that can screen for multiple agent classes in one test. The M-272 Water Test Kit is designed specifically for this purpose, offering rapid detection of several CW agent types in water—nerve agents, blister agents, cyanide-based blood agents, and lewisite. It uses field-compatible colorimetric indicators that produce a visible change when these agents are present, allowing quick screening without complex equipment. Other kits shown target different purposes: a Water Quality Test Kit focuses on general water quality parameters (like pH, chlorine, hardness) rather than CW agents; a Nerve Agent Detector Kit would detect only nerve agents and miss other classes; a VOCs Test Kit looks for volatile organic compounds, not chemical warfare agents.

9. What instrument is used to test the chemical purity of water by measuring the amount of dissolved solids?

A. Conductivity Meter

B. pH Meter

C. Turbidity Meter

D. Spectrophotometer

Dissolved solids in water become ions that conduct electricity. A conductivity meter measures how well water conducts an electrical current, so higher levels of dissolved ions yield higher conductivity. This makes it a practical proxy for total dissolved solids and thus chemical purity. Temperature can affect readings, so many meters use automatic temperature compensation. The other tools focus on different aspects: a pH meter gauges acidity, a turbidity meter measures cloudiness from suspended particles, and a spectrophotometer analyzes specific substances by light absorption. Therefore, the conductivity meter best assesses chemical purity related to dissolved solids.

10. Dissolved Gases in water depend on the chemical characteristics of the gas, atmospheric concentration, pressure, and temperature.

A. Dissolved Gases

B. Pathogens

C. Turbidity

D. Acidity

Dissolved Gases in water are determined by how gases interact with water, governed by concepts like Henry's law: the amount dissolved depends on the gas's chemical characteristics, the partial pressure of that gas in the atmosphere, and the temperature and pressure conditions. Different gases have different solubilities, and changes in temperature or pressure shift how much gas can remain dissolved. For example, cooler water holds more dissolved oxygen and carbon dioxide than warmer water, and higher atmospheric partial pressures push more gas into solution until equilibrium. The statement describes the factors that control dissolved gas content, so the term that fits is Dissolved Gases. Pathogens, turbidity, and acidity refer to other aspects of water quality and do not describe dissolved gas content.

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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://beeblock9.examzify.com>

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

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