

KENTUCKY REGISTERED ENVIRONMENTAL HEALTH SPECIALIST (REHS) PRACTICE TEST (SAMPLE)

STUDY GUIDE



Prepare with structure. Pass with confidence



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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 of the following materials drained from the crankcase is most harmful to the environment?**
 - A. Water and oil
 - B. Heavy metals and additives
 - C. Organic solvents
 - D. Plastic waste

- 2. What causes acid rain?**
 - A. Reactions between methane and water vapor
 - B. Mixing of sulfur dioxide and nitrogen oxide with oxygen
 - C. Chemical reactions involving carbon dioxide
 - D. Reactions of sulfur dioxide and nitrogen oxides with water and other chemicals

- 3. Shigellosis is classified as what type of agent?**
 - A. Virus
 - B. Bacteria
 - C. Protozoa
 - D. Fungi

- 4. What is the most commonly used biological treatment process for the removal of organic matter from wastewater?**
 - A. Activated sludge process
 - B. Trickling filters
 - C. Sewage lagoons
 - D. Biofilters

- 5. How does an increase in pH affect the disinfection power of free chlorine?**
 - A. It increases disinfection power
 - B. It decreases disinfection power
 - C. It has no effect on disinfection power
 - D. It stabilizes disinfection power

- 6. Which process significantly reduces solids and phosphate concentration in wastewater treatment?**
- A. Mechanical filtration followed by aeration
 - B. Chemical coagulation followed by sedimentation and filtration
 - C. Biological decomposition followed by evaporation
 - D. Direct pumping of treated water into bodies of water
- 7. Which of the following is an example of a reservoir?**
- A. An infected human being
 - B. A clean water source
 - C. A vector organism transmitting disease
 - D. A food product
- 8. Which process is typically used to remove salt from seawater?**
- A. Filtration
 - B. Distillation
 - C. Reverse osmosis
 - D. Evaporation
- 9. Which of the following has been banned by the EPA for commercial use?**
- A. Dursban
 - B. Diazinon
 - C. Bromethalin
 - D. Malathion
- 10. What bacterium is associated with inhalation of contaminated water aerosols?**
- A. Salmonella
 - B. Legionella Pneumophila
 - C. E. coli
 - D. Shigella

Answers

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

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Explanations

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1. Which of the following materials drained from the crankcase is most harmful to the environment?

- A. Water and oil
- B. Heavy metals and additives**
- C. Organic solvents
- D. Plastic waste

The most harmful materials drained from the crankcase are heavy metals and additives. Crankcase oil can contain a variety of contaminants that pose significant environmental hazards. Heavy metals such as lead, cadmium, and arsenic can accumulate in the soil and water systems, leading to toxicity in living organisms. These substances can persist in the environment for long periods, potentially entering the food chain and affecting animal and human health. Additives in motor oil, which are designed to enhance performance or longevity, can also include harmful chemical compounds. When released into the environment, these additives can contribute to pollution and have detrimental effects on ecosystems, as they may interfere with biological processes or contribute to the degradation of water quality. Other choices, while they can also pose environmental risks, do not present the same level of toxicity or long-term environmental impact as heavy metals and additives. For example, while organic solvents can be harmful, their effects are often more localized and less persistent compared to the lasting damage that heavy metals can inflict. Similarly, water and oil may create slicks and pollution but do not carry the bioaccumulative risks associated with heavy metals. Plastic waste is an environmental concern for its impact on wildlife and ecosystems but is less directly toxic compared to the chemical components found in

2. What causes acid rain?

- A. Reactions between methane and water vapor
- B. Mixing of sulfur dioxide and nitrogen oxide with oxygen
- C. Chemical reactions involving carbon dioxide
- D. Reactions of sulfur dioxide and nitrogen oxides with water and other chemicals**

The phenomenon of acid rain primarily results from the complex chemical reactions involving sulfur dioxide (SO₂) and nitrogen oxides (NO_x) with water and other atmospheric chemicals. When sulfur dioxide is emitted into the atmosphere, often from burning fossil fuels, it can react with water vapor, oxygen, and other trace chemicals to form sulfuric acid. Similarly, nitrogen oxides can also react, leading to the formation of nitric acid. These acids then mix with precipitation (rain, snow, etc.), resulting in acid rain, which can have detrimental effects on the environment, such as damaging forests, harming aquatic life, and eroding buildings. This understanding clarifies why the other options do not correctly represent the primary causes of acid rain. The first choice cites methane, which is unrelated to acid rain formation. The second option suggests a mixing of gases but lacks the detailed chemical context that defines acid rain. The third choice refers to carbon dioxide, which can contribute to environmental issues like climate change, but it does not lead to the acidity in rain that is characteristic of acid rain. Hence, the identified correct answer encompasses the critical reactions and components responsible for this environmental concern.

3. Shigellosis is classified as what type of agent?

- A. Virus
- B. Bacteria**
- C. Protozoa
- D. Fungi

Shigellosis is caused by Shigella bacteria, which belongs to the family of Enterobacteriaceae. This type of infection is characterized by diarrhea, fever, and abdominal cramps, often accompanied by the presence of blood and mucus in the stool. The illness is typically transmitted through contaminated food or water or through direct person-to-person contact. Understanding that shigellosis is a bacterial infection is crucial because it helps guide the appropriate public health response, including measures for controlling outbreaks, the importance of hygiene, and the development of treatment protocols. Identifying it as a bacterial disease also distinguishes it from viral, protozoan, or fungal infections, which have different characteristics and require distinct approaches to management and prevention.

4. What is the most commonly used biological treatment process for the removal of organic matter from wastewater?

- A. Activated sludge process
- B. Trickling filters**
- C. Sewage lagoons
- D. Biofilters

The activated sludge process is the most commonly used biological treatment for the removal of organic matter from wastewater. This method involves aerating the wastewater to promote the growth of microorganisms that digest organic pollutants. The aerated mixture contains a dense population of microorganisms, which effectively break down organic material, forming flocs that can be separated from the treated water. In contrast, trickling filters, while they are a valid treatment process, primarily involve passing wastewater over a bed of media colonized by microorganisms, allowing for biofilm development. Although effective, they are not as widely used as the activated sludge process in many municipal wastewater treatment facilities. Sewage lagoons are more passive systems that rely on natural processes and sunlight for treatment over extended periods, making them less efficient for higher loads of organic matter compared to the activated sludge process. Biofilters utilize similar principles as trickling filters; however, they may not always provide the same level of control over the treatment process due to the variability in the media and flow operation. The prominence of the activated sludge process is attributed to its efficiency, scalability, and ability to handle varying loads of organic matter, making it the preferred method in most contemporary wastewater treatment facilities.

5. How does an increase in pH affect the disinfection power of free chlorine?

- A. It increases disinfection power
- B. It decreases disinfection power**
- C. It has no effect on disinfection power
- D. It stabilizes disinfection power

An increase in pH decreases the disinfection power of free chlorine, which is due to the chemical nature of chlorine in relation to pH levels. Free chlorine exists in two forms in water: hypochlorous acid (HOCl) and hypochlorite ion (OCl⁻). Hypochlorous acid is the form that is more effective as a disinfectant; it is associated with higher antimicrobial activity. As the pH of water rises, the balance between these two forms shifts. Specifically, at higher pH levels, the proportion of hypochlorite ion increases while the concentration of hypochlorous acid decreases. This shift reduces the overall disinfection capability of free chlorine. Effective disinfection is optimal at a lower pH (around 7.0-7.2), where the concentration of hypochlorous acid is maximized. Therefore, higher pH results in a less effective disinfectant, which is why the choice indicating that an increase in pH decreases the disinfection power is correct.

6. Which process significantly reduces solids and phosphate concentration in wastewater treatment?

- A. Mechanical filtration followed by aeration
- B. Chemical coagulation followed by sedimentation and filtration**
- C. Biological decomposition followed by evaporation
- D. Direct pumping of treated water into bodies of water

The process that significantly reduces solids and phosphate concentration in wastewater treatment is chemical coagulation followed by sedimentation and filtration. This process involves adding chemicals (coagulants) to the wastewater, which facilitate the aggregation of small particles, including dissolved phosphates and suspended solids. Once the particles adhere to the coagulants, they form larger flocs that can be easily removed. Following coagulation, sedimentation allows gravity to separate the heavier floc aggregates from the water, concentrating them at the bottom of a tank. The clarified water can then undergo filtration, which further removes any remaining suspended particles, including additional phosphates. This multi-step approach effectively reduces both solids and phosphate concentration, making it essential for treating wastewater before it is discharged back into the environment. Other methods may be effective in certain contexts, but they do not specifically focus on the significant reduction of both solids and phosphates in the same comprehensive manner as chemical coagulation followed by sedimentation and filtration.

7. Which of the following is an example of a reservoir?

- A. An infected human being**
- B. A clean water source
- C. A vector organism transmitting disease
- D. A food product

An infected human being serves as an example of a reservoir in the context of disease transmission. A reservoir is defined as any person, animal, plant, soil, or substance in which an infectious agent normally lives and multiplies, providing a suitable environment for the agent to thrive. In this case, humans can carry infectious agents such as viruses or bacteria and, through activities such as coughing, sneezing, or other interactions, can transmit these pathogens to others, making them a critical part of the disease cycle. The other choices, while related to infectious disease dynamics, do not function as reservoirs in the same way. A clean water source lacks infectious agents, so it does not qualify. A vector organism, such as mosquitoes or ticks, is responsible for transmitting diseases but does not serve as a reservoir in the classic sense. Similarly, a food product may carry pathogens but does not cultivate them or serve as a living environment, so it doesn't meet the definition of a reservoir either.

8. Which process is typically used to remove salt from seawater?

- A. Filtration
- B. Distillation
- C. Reverse osmosis**
- D. Evaporation

The removal of salt from seawater is commonly achieved through reverse osmosis, a process that utilizes a semi-permeable membrane to separate salt and other impurities from water molecules. In reverse osmosis, seawater is pressurized, forcing water through the membrane, while leaving salts and contaminants behind. This method is highly effective for desalination because it can produce potable water from saline sources with a relatively low energy input compared to other processes. Comparatively, while distillation involves boiling seawater and condensing the vapor back into liquid to leave the salts behind, it generally requires more energy and is less efficient for large-scale desalination. Filtration often deals with particulate matter rather than dissolved salts, making it unsuitable for desalination purposes. Evaporation, on the other hand, can also lead to salt removal, but it is a slower and less controlled method that typically isn't practical for producing drinking water at scale compared to reverse osmosis. Therefore, reverse osmosis stands out as the most effective and widely used method for desalinization in modern water treatment systems.

9. Which of the following has been banned by the EPA for commercial use?

- A. Dursban**
- B. Diazinon
- C. Bromethalin
- D. Malathion

Dursban, which is a trade name for chlorpyrifos, has been banned by the Environmental Protection Agency (EPA) for commercial use due to its potential harmful effects on human health and the environment. This pesticide has been associated with various issues, including neurodevelopmental harm in children and adverse effects on wildlife. The ban reflects a growing recognition of the need to prioritize safety and reduce exposure to toxic substances, particularly those that can impact vulnerable populations. In contrast, while Diazinon has faced restrictions and was previously phased out for residential use, it has not been entirely banned from commercial applications in all contexts. Bromethalin is a rodenticide and has not been banned but is regulated. Malathion remains in use for specific applications, though it is subject to restrictions. The decision to ban chlorpyrifos illustrates the EPA's commitment to safeguarding public health by removing particularly hazardous substances from the market.

10. What bacterium is associated with inhalation of contaminated water aerosols?

- A. Salmonella
- B. Legionella Pneumophila**
- C. E. coli
- D. Shigella

Legionella pneumophila is the bacterium specifically associated with inhalation of contaminated water aerosols. This organism is known for causing Legionnaires' disease, a severe form of pneumonia. It thrives in aquatic environments, such as hot water systems, cooling towers, and poorly maintained water reservoirs. When water containing Legionella is aerosolized, for instance through showers, hot tubs, or air conditioning cooling systems, individuals can inadvertently inhale these contaminated aerosols, leading to infection. In contrast, the other bacteria listed are primarily associated with gastrointestinal diseases rather than respiratory illness due to aerosol inhalation. Salmonella, for instance, is mainly transmitted through contaminated food or water, and E. coli infections are largely associated with undercooked meat or contaminated produce. Shigella is primarily spread through direct person-to-person contact or contaminated surfaces, particularly in settings with inadequate sanitation. Thus, Legionella pneumophila stands out as the primary concern regarding inhalation of contaminated water aerosols.

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://kentuckyrehs.examzify.com>

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

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