

Ohio ABC Class 1 Drinking Water Practice Exam (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. Which of the following best describes the flavor effects of manganese in beverages?**
 - A. It improves the flavor significantly**
 - B. It causes an undesirable metallic taste**
 - C. It makes beverages more caffeine-rich**
 - D. It has no impact on the flavor**

- 2. What is the most important consideration in an automatic startup after a power failure?**
 - A. Operator safety**
 - B. Power surges that could trip a breaker**
 - C. Importance to process**
 - D. Importance to water quality**

- 3. Which measurements are used to express the concentration of solute in a solution?**
 - A. Liters per cubic meter (L/m³)**
 - B. Milligrams per liter (mg/l) or grains per gallon (gpg)**
 - C. Percentage by weight**
 - D. Parts per million (ppm)**

- 4. What is the opening size for medium-ranked fixed screens or bar screens?**
 - A. 1 inch**
 - B. 1/2 - 1 inches**
 - C. 3/4 - 1.5 inches**
 - D. 1 - 2 inches**

- 5. Which gas, heavier than air and with a strong odor, is often found in groundwater?**
 - A. Hydrogen sulfide**
 - B. Carbon dioxide**
 - C. Radon**
 - D. Methane**

6. The buildup of corrosion products is known as?

- A. Deposition**
- B. Electrochemical deposition**
- C. Physiochemical deposition**
- D. Tuberculation**

7. Which treatment method is characterized by low maintenance and operational costs?

- A. Chemical precipitation**
- B. Slow sand filters**
- C. Rapid sand filters**
- D. Ultrafiltration**

8. Which two factors most impact the effectiveness of chlorination?

- A. The pH and temperature of the water**
- B. The concentration of chlorine and the contact time**
- C. The content of foreign substances and chlorination concentration**
- D. The pH of the water and the concentration of chlorination**

9. Which of the following is not typically included in a sanitary survey?

- A. Water sources**
- B. Storage facilities**
- C. Fire department hydrants**
- D. Water system management and operations**

10. Drinking water that is aesthetically acceptable is considered?

- A. Palatable**
- B. Sterile**
- C. Potable**
- D. Harmless**

Answers

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

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Explanations

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1. Which of the following best describes the flavor effects of manganese in beverages?

- A. It improves the flavor significantly**
- B. It causes an undesirable metallic taste**
- C. It makes beverages more caffeine-rich**
- D. It has no impact on the flavor**

Manganese is known to impart a distinct undesirable metallic taste to beverages when present at elevated levels. This metallic flavor can negatively impact the overall sensory experience of the drink, making it less enjoyable for consumers. In drinking water, high concentrations of manganese can also lead to staining of fixtures and laundry, further reinforcing the perception of its negative effects. Manganese, while an essential trace element at low concentrations, can become problematic and result in off-flavors in beverages. Thus, the correct understanding of manganese's impact on flavor aligns with its reputation for causing an unpleasant taste rather than enhancing or having a neutral influence.

2. What is the most important consideration in an automatic startup after a power failure?

- A. Operator safety**
- B. Power surges that could trip a breaker**
- C. Importance to process**
- D. Importance to water quality**

In an automatic startup after a power failure, the most important consideration is operator safety. This is crucial because during a power outage, systems may not be functioning correctly, leading to unpredictable situations. As the system begins to restart, there is a risk of equipment malfunction or hazards such as unexpected pressure releases or electrical hazards. Ensuring the safety of operators means that proper protocols and safeguards are in place to protect them as they monitor and manage the restart of equipment and processes. Operator safety takes precedence because even with other considerations like process importance or water quality, an unsafe working environment can lead to accidents or injuries. Therefore, measures must be established to ensure that operators are out of harm's way, using safeguards such as emergency stop buttons or lockout/tagout procedures to prevent accidents during the startup sequence.

3. Which measurements are used to express the concentration of solute in a solution?

- A. Liters per cubic meter (L/m³)
- B. Milligrams per liter (mg/l) or grains per gallon (gpg)**
- C. Percentage by weight
- D. Parts per million (ppm)

The concentration of solute in a solution can be expressed using various units, and milligrams per liter (mg/l) or grains per gallon (gpg) are commonly used measurements in water quality analysis. Milligrams per liter is a direct way to quantify how much of a solute is present in a unit of water, which directly corresponds to the concentration of that solute. This measurement is particularly valuable in drinking water treatment and environmental sciences, and it allows for clear communication about the safety and quality of water supplies. Grains per gallon, on the other hand, is often used in contexts relating to water hardness and mineral content, particularly in the United States. It provides another means to express concentrations, especially for substances like calcium and magnesium where hardness is a factor of concern. Both of these measurements are critical in understanding the presence and potential impact of various contaminants in drinking water, thereby playing a vital role in ensuring public health and compliance with regulatory standards. Other options like liters per cubic meter, percentage by weight, and parts per million also serve important purposes in different contexts, but in the context of drinking water concentration specifically, milligrams per liter and grains per gallon are the most directly applicable and widely recognized measures.

4. What is the opening size for medium-ranked fixed screens or bar screens?

- A. 1 inch
- B. 1/2 - 1 inches**
- C. 3/4 - 1.5 inches
- D. 1 - 2 inches

The opening size for medium-ranked fixed screens or bar screens is typically defined as 1/2 - 1 inches. This specification is important for several reasons. Medium-ranked screens are designed to effectively filter out larger debris and particles from the water before it moves on to the treatment process. The specified range of 1/2 - 1 inches allows these screens to capture material that could potentially cause issues in the system, such as clogging pumps or compromising water quality. Additionally, selecting the appropriate screen size is crucial for balancing efficiency and operational effectiveness. A medium opening size is large enough to allow adequate flow while still providing effective filtration. This helps in maintaining the longevity of the equipment downstream and ensures that the treatment process operates smoothly. In contrast, options outside this range would either be too small, resulting in excessive clogging, or too large, potentially allowing harmful debris to pass through and impact water treatment. Therefore, the specified range of 1/2 - 1 inches correctly reflects the needs for medium-ranked fixed screens in water treatment systems.

5. Which gas, heavier than air and with a strong odor, is often found in groundwater?

A. Hydrogen sulfide

B. Carbon dioxide

C. Radon

D. Methane

Hydrogen sulfide is a colorless gas that is indeed heavier than air and has a distinct, strong odor often described as smelling like rotten eggs. It is commonly found in groundwater, particularly in areas where there is an abundance of organic matter, such as wetlands or near industrial waste sites. The presence of hydrogen sulfide in groundwater can originate from the decomposition of organic materials or from geological sources, such as certain types of rock formations. The significance of hydrogen sulfide in water quality management lies in its potential health impacts and the challenges it poses for water treatment. At low concentrations, it can be a nuisance due to its odor, but at higher levels, it can be toxic to humans and aquatic life. Identifying and managing its presence in drinking water sources is crucial for ensuring safety and compliance with water quality standards. In contrast, other gases listed have different attributes: carbon dioxide is commonly dissolved in water but does not have a strong odor; radon, while potentially found in groundwater, is odorless and associated with radioactive decay; and methane, while it can be found in groundwater, is not typically characterized by a strong odor and is lighter than air.

6. The buildup of corrosion products is known as?

A. Deposition

B. Electrochemical deposition

C. Physiochemical deposition

D. Tuberculation

The buildup of corrosion products is specifically referred to as tuberculation. This phenomenon typically occurs in drinking water pipes, particularly those made of iron or steel, where corrosion leads to the formation of small, tubercle-like deposits on the interior surface of the pipes. These deposits are primarily composed of iron oxides and can restrict water flow, degrade water quality, and lead to increased maintenance costs. Tuberculation is a critical concern in water distribution systems because it can impact both the efficacy of the water treatment process and the overall health of the water supply. It is essential for water operators to understand this concept in order to manage and mitigate corrosion-related issues within their systems. Knowledge of tuberculation allows for better maintenance practices and planning for pipe replacement or rehabilitation to maintain safe drinking water standards.

7. Which treatment method is characterized by low maintenance and operational costs?

- A. Chemical precipitation**
- B. Slow sand filters**
- C. Rapid sand filters**
- D. Ultrafiltration**

Slow sand filters are characterized by low maintenance and operational costs primarily due to their simple design and effectiveness in removing contaminants without the need for extensive mechanical processes or frequent chemical dosing. These filters operate on the principle of natural biological filtration, where a layer of biological material, known as a schmutzdecke, forms on the surface of the sand as microorganisms proliferate. This layer helps in effectively trapping particles and microorganisms, while also contributing to the degradation of organic matter. The simplicity of slow sand filters means that they require less energy and fewer materials than more complex systems, such as rapid sand filters or ultrafiltration. Additionally, they have lower operational oversight requirements, allowing facilities to benefit from reduced labor costs. Maintenance typically involves periodic cleaning of the filter and replacing sand, which can be done less frequently compared to other treatment methods that require constant monitoring and intervention to maintain optimal performance. This combination of low operational and maintenance needs makes slow sand filters an attractive option for drinking water treatment, particularly in small or rural water systems where resources may be limited.

8. Which two factors most impact the effectiveness of chlorination?

- A. The pH and temperature of the water**
- B. The concentration of chlorine and the contact time**
- C. The content of foreign substances and chlorination concentration**
- D. The pH of the water and the concentration of chlorination**

The effectiveness of chlorination is significantly influenced by the concentration of chlorine and the contact time. Concentration refers to the amount of chlorine present in the water, which directly affects its ability to disinfect and kill pathogens. Higher concentrations generally lead to more effective disinfection, as there are more active chlorine molecules available to react with and destroy microorganisms. Contact time is equally important; it is the duration that chlorine remains in contact with the water. Effective disinfection requires adequate time for chlorine to interact with and inactivate pathogens. Insufficient contact time can result in incomplete disinfection, even if chlorine concentration is high; if the chlorine does not have enough time to react with the contaminants, it may not effectively reduce pathogen levels. While factors like pH, temperature, and foreign substances can influence chlorination effectiveness, the primary determinants are the concentration of chlorine and the duration it is allowed to interact with the water. This makes the combination of these two factors critical for achieving optimal disinfection results.

9. Which of the following is not typically included in a sanitary survey?

- A. Water sources**
- B. Storage facilities**
- C. Fire department hydrants**
- D. Water system management and operations**

A sanitary survey is a comprehensive assessment of a water system that evaluates various components related to the quality and safety of drinking water. It aims to identify any potential sources of contamination and assess the adequacy of the water supply, treatment processes, distribution systems, and overall management practices. Focusing on the correct choice, fire department hydrants are not typically included in a sanitary survey. Sanitary surveys concentrate on aspects directly related to the drinking water supply such as water sources, storage facilities, and management and operational practices of the water system. While hydrants are important components of fire protection and may be connected to the drinking water system, they do not fall under the primary focus of ensuring the safety and quality of drinking water. Hydrants are generally considered part of the distribution system but do not directly impact the sanitary conditions of the water supply. In context, options like water sources, storage facilities, and water system management and operations are essential elements that directly influence the safety, quality, and reliability of drinking water, making them standard components of a sanitary survey.

10. Drinking water that is aesthetically acceptable is considered?

- A. Palatable**
- B. Sterile**
- C. Potable**
- D. Harmless**

The term "palatable" refers to water that has a pleasant taste, aroma, and appearance, making it aesthetically acceptable for consumption. When water is considered palatable, it implies that it is agreeable to drink, which is an essential characteristic for ensuring consumer satisfaction and encouraging water consumption. Palatability can encompass aspects such as taste, smell, and clarity, which can influence whether individuals will choose to drink the water. On the other hand, the other options hold different meanings: "sterile" refers to water that is free of all microorganisms, which is more about safety than aesthetics; "potable" indicates that the water is safe to drink but does not necessarily address the water's taste or other aesthetic qualities; "harmless" refers to the absence of harmful substances or pathogens but does not encompass the sensory aspects of drinking water. Each of these alternatives emphasizes different attributes of water quality, but they do not focus on the sensory experience associated with drinking water. Therefore, palatable is the most appropriate term for describing drinking water that is aesthetically acceptable.

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://ohabcclass1drinkingwater.examzify.com>

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

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