

# FDEP Drinking Water Operator C 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

- 1. What is a cathode in electrochemical cells?**
  - A. The positive pole or electrode**
  - B. The negative pole or electrode**
  - C. The point where electric current enters the metal**
  - D. The solution used to conduct electricity**
- 2. Why is it important to monitor turbidity in drinking water systems?**
  - A. It can indicate the presence of chemical contaminants**
  - B. It can affect the taste of water**
  - C. It can shield pathogens from disinfection**
  - D. It directly consumes disinfectant chemicals**
- 3. Chlorine Dioxide can cause which of the following hazardous effects?**
  - A. Skin irritation**
  - B. Suffocation**
  - C. Eye damage**
  - D. Respiratory irritation**
- 4. A disease-producing organism is commonly referred to as a?**
  - A. Virus**
  - B. Pathogen**
  - C. Parasite**
  - D. Bacteria**
- 5. What is the setback requirement for wells located near septic tanks with a capacity of less than 2000 gpd?**
  - A. 50 feet**
  - B. 100 feet**
  - C. 150 feet**
  - D. 200 feet**

- 6. What does "lake turnover" primarily impact?**
- A. Water temperature and oxygen levels**
  - B. Fish populations only**
  - C. Amount of surface area exposed**
  - D. Water clarity**
- 7. What is the first step to convert a fraction to a decimal?**
- A. Multiply the numerator by the denominator**
  - B. Do the division of the numerator by the denominator**
  - C. Reduce the fraction to its simplest form**
  - D. Add the numerator to the denominator**
- 8. What is the typical hardness level achievable by chemical precipitation treatment?**
- A. Up to 100 mg/L (CaCO<sub>3</sub>)**
  - B. Around 80 mg/L (CaCO<sub>3</sub>)**
  - C. Down to about 35 mg/L (CaCO<sub>3</sub>)**
  - D. Zero hardness**
- 9. What phenomenon occurs when particulate impurities in water settle after coagulation?**
- A. Hydration**
  - B. Flocculation**
  - C. Separation**
  - D. Filtration**
- 10. Which waterborne illness is a viral infection often spread through contaminated water?**
- A. Giardiasis**
  - B. Hepatitis**
  - C. Dysentery**
  - D. Typhoid**



## **Answers**

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

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## **Explanations**

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## 1. What is a cathode in electrochemical cells?

- A. The positive pole or electrode
- B. The negative pole or electrode**
- C. The point where electric current enters the metal
- D. The solution used to conduct electricity

In an electrochemical cell, the cathode is defined as the negative pole or electrode. In the context of electrochemical reactions, the cathode is where reduction occurs, which means it is the site at which electrons are gained. This characteristic is fundamental to the operation of both galvanic (voltaic) and electrolytic cells. In a galvanic cell, the cathode attracts cations from the solution, which accept electrons and, thus, undergo reduction. Conversely, in an electrolytic cell, the cathode receives electrons from an external power source, facilitating the reduction process. Understanding the role of the cathode also requires a grasp of how it functions in relation to the anode, which serves as the positive pole where oxidation occurs. The definition and function are critical in electricity flow, as electrons are drawn toward the cathode from the anode, establishing the essential reactions within the cell necessary for generating or utilizing electrical energy. The other choices relate to concepts in electrochemistry but do not accurately define the cathode's function and role, making them less relevant in the context of identifying the cathode.

## 2. Why is it important to monitor turbidity in drinking water systems?

- A. It can indicate the presence of chemical contaminants
- B. It can affect the taste of water
- C. It can shield pathogens from disinfection**
- D. It directly consumes disinfectant chemicals

Monitoring turbidity in drinking water systems is essential primarily because it can shield pathogens from disinfection. Turbidity refers to the cloudiness or haziness of water caused by suspended particles, which can include microorganisms such as bacteria and viruses. When water has high turbidity levels, these particles can provide a protective barrier that prevents disinfectants, such as chlorine, from effectively reaching and inactivating the pathogens. This is crucial for ensuring the safety of drinking water, as inadequate disinfection due to high turbidity can lead to waterborne diseases. Therefore, maintaining low turbidity levels is a key aspect of water quality management to ensure that disinfection processes are effective and that public health is protected. While the other options address various aspects of water quality, they do not highlight the direct implications of turbidity on disinfection efficacy as effectively as the chosen answer does.

**3. Chlorine Dioxide can cause which of the following hazardous effects?**

- A. Skin irritation**
- B. Suffocation**
- C. Eye damage**
- D. Respiratory irritation**

Chlorine Dioxide is a chemical compound used mainly as a bleaching and disinfecting agent, particularly in water treatment processes. One of the most significant hazardous effects associated with Chlorine Dioxide exposure is its potential to cause suffocation. This occurs due to its ability to react with organic matter and could lead to the production of harmful gases or the depletion of oxygen in certain environments, especially in confined spaces. When Chlorine Dioxide is present in high concentrations, it can displace oxygen, creating an asphyxiation hazard. This risk is particularly concerning in poorly ventilated areas, where the concentration of the gas can build up and lead to a dangerous situation for individuals exposed to it. Understanding the risks associated with Chlorine Dioxide is crucial for safe handling and using it effectively in water treatment while ensuring that safety protocols are adhered to in order to minimize any potential hazards.

**4. A disease-producing organism is commonly referred to as a?**

- A. Virus**
- B. Pathogen**
- C. Parasite**
- D. Bacteria**

A disease-producing organism is commonly referred to as a pathogen. This term encompasses a broad category of microorganisms that can cause illness in humans, animals, and plants. Pathogens include viruses, bacteria, fungi, and parasites. Each of these categories contains specific organisms that have the potential to lead to various diseases. For example, viruses and bacteria can reproduce and cause infections, while parasites often depend on the host for their life cycle and nutrients. The key aspect that unites these diverse organisms under the term "pathogen" is their ability to disrupt normal biological functions, leading to disease. By using the term pathogen, it allows for a more inclusive understanding of all illness-causing agents rather than just one specific type, making it the most accurate choice for this question.

**5. What is the setback requirement for wells located near septic tanks with a capacity of less than 2000 gpd?**

- A. 50 feet
- B. 100 feet**
- C. 150 feet
- D. 200 feet

The setback requirement for wells located near septic tanks is an important consideration for ensuring the safety and quality of drinking water. For septic tanks with a capacity of less than 2000 gallons per day (gpd), the established setback distance is 100 feet. This distance is designed to minimize the risk of groundwater contamination from potential leachate produced by the septic system, thereby protecting the water supply drawn from the well. The rationale behind the 100-foot requirement is based on studies and regulations that recognize the potential for contaminants from septic systems to migrate through the soil and into the groundwater. By maintaining this minimum distance, it helps to ensure a buffer zone that can effectively filter and dilute any pollutants before they reach the well, which is crucial for public health and safety. In the context of well construction and permitting, adhering to these setback regulations is not just a regulatory compliance issue but also a vital practice for safeguarding drinking water resources. The specific requirement of 100 feet serves as a standard measure to promote prudent land use and environmental protection practices.

**6. What does "lake turnover" primarily impact?**

- A. Water temperature and oxygen levels**
- B. Fish populations only
- C. Amount of surface area exposed
- D. Water clarity

Lake turnover is a natural process that occurs in many lakes, particularly those in temperate regions. This process greatly affects water temperature and oxygen levels within the lake. During turnover, colder, denser water at the bottom of the lake rises to the surface, while warmer, less dense water descends. This mixing results in a uniform temperature throughout the layers of the water column, which can significantly influence the amount of oxygen dissolved in the water. As the water mixes, oxygen that was previously present in the deeper layers is distributed evenly, which is essential for aquatic life. The autumn and spring turnover periods can be especially critical, as they can determine the health of the aquatic environment by affecting not just the temperature, but also the nutrient dynamics and the overall ecology of the lake. The other potential impacts listed, such as fish populations, surface area exposure, and water clarity, may be influenced by lake turnover, but they are secondary effects rather than the primary impact. The immediate and most significant changes are those related to temperature and oxygen levels, which are vital for the survival of aquatic organisms.

**7. What is the first step to convert a fraction to a decimal?**

- A. Multiply the numerator by the denominator**
- B. Do the division of the numerator by the denominator**
- C. Reduce the fraction to its simplest form**
- D. Add the numerator to the denominator**

To convert a fraction to a decimal, the first step involves performing the division of the numerator by the denominator. This operation effectively expresses the fraction as a decimal number, which represents the same value in a different form. For instance, if you have a fraction like  $\frac{3}{4}$ , to convert it to a decimal, you divide 3 (the numerator) by 4 (the denominator), resulting in 0.75. This method is a straightforward approach to finding the decimal equivalent and is essential in various applications, especially in fields related to mathematics, finance, and engineering. The other options may involve steps related to fractions, but they do not directly address the process of obtaining a decimal from a fraction.

**8. What is the typical hardness level achievable by chemical precipitation treatment?**

- A. Up to 100 mg/L ( $\text{CaCO}_3$ )**
- B. Around 80 mg/L ( $\text{CaCO}_3$ )**
- C. Down to about 35 mg/L ( $\text{CaCO}_3$ )**
- D. Zero hardness**

Chemical precipitation treatment is an effective method for reducing water hardness, primarily by removing calcium and magnesium ions through the addition of chemicals that react with these minerals and form insoluble precipitates. This method often involves adding lime (calcium hydroxide) or soda ash (sodium carbonate), which facilitates the reaction that leads to precipitation and subsequent removal of hardness-causing ions. In practice, chemical precipitation can typically reduce hardness levels down to approximately 35 mg/L as  $\text{CaCO}_3$ . This level is considered achievable in many water treatment scenarios, making it a common target in managing mineral content in drinking water. The effectiveness of the treatment can depend on various operational factors, including the chemicals used, their dosages, and the conditions under which the treatment occurs. Achieving zero hardness is not practical through this method alone, as some hardness ions may remain soluble or may not be completely removed, while higher concentrations, such as 80 mg/L or 100 mg/L, could reflect the initial hardness level rather than a practical reduction level for chemical precipitation.

**9. What phenomenon occurs when particulate impurities in water settle after coagulation?**

- A. Hydration**
- B. Flocculation**
- C. Separation**
- D. Filtration**

The correct phenomenon that occurs when particulate impurities in water settle after coagulation is flocculation. This process follows coagulation, where coagulants are added to water to neutralize the charge of suspended particles, allowing them to clump together into larger aggregates known as "flocs." During flocculation, gentle mixing encourages these flocs to grow in size by colliding and joining together. Once the flocs reach a sufficient size and density, they eventually settle out of the water due to gravity, which is the next step in the water treatment process. Flocculation is crucial because it significantly aids in reducing turbidity and removing contaminants from water, ensuring cleaner water for consumption. Understanding flocculation is essential for water treatment operators, as it is a critical step towards achieving effective purification of drinking water. This step should not be confused with other terms such as hydration, which refers to the process of incorporating water into a substance, or filtration, which is a physical separation method. Separation, while it might suggest a removal process, does not specifically describe the interaction and settling process that occurs during flocculation.

**10. Which waterborne illness is a viral infection often spread through contaminated water?**

- A. Giardiasis**
- B. Hepatitis**
- C. Dysentery**
- D. Typhoid**

Hepatitis is a viral infection that can indeed be spread through contaminated water, particularly viral hepatitis A. This type of hepatitis is often associated with poor sanitation and can occur in areas where water sources are not properly treated or are contaminated with fecal matter. The virus is typically transmitted when a person ingests water that has been contaminated with the virus, leading to liver inflammation and various symptoms such as jaundice, fatigue, and gastrointestinal issues. In contrast, the other illnesses listed are primarily caused by different pathogens. Giardiasis is caused by a protozoan parasite, Dysentery is most often associated with bacterial infections (though it can also be viral), and Typhoid fever is caused by the bacterium *Salmonella typhi*. Although these conditions may also be related to contaminated water, they do not fit the specific category of viral infections.



## 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](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://fdepdrinkingwateropc.examzify.com>**

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