

Texas Class C Surface 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

- 1. Evaporation and transpiration represent which aspect of the water cycle in Texas?**
 - A. Water replenishment**
 - B. Water loss**
 - C. Water filtration**
 - D. Water storage**
- 2. What is the minimum normal operating pressure stated for water distribution systems?**
 - A. 20 psi**
 - B. 30 psi**
 - C. 35 psi**
 - D. 40 psi**
- 3. What does alkalinity measure in water?**
 - A. Temperature resistance**
 - B. pH stability**
 - C. Presence of minerals**
 - D. Organic matter**
- 4. The DPD test method for chlorine residual typically involves the use of what?**
 - A. A pH meter**
 - B. A color comparator**
 - C. A spectrophotometer**
 - D. A titration method**
- 5. What percentage of chlorine does calcium hypochlorite contain?**
 - A. 40%-50%**
 - B. 60%-70%**
 - C. 80%-90%**
 - D. 20%-30%**

- 6. What is the general effect of corrosion in water treatment systems?**
- A. Increased efficiency**
 - B. Reduced water quality**
 - C. No impact on operation**
 - D. Higher maintenance costs**
- 7. What happens to chlorine leaks in metal containers over time?**
- A. They reduce in size**
 - B. They become smaller**
 - C. They tend to become larger**
 - D. They stabilize and stop**
- 8. What is the required chlorine residual that distribution systems must maintain in the far reaches according to public water regulations?**
- A. 0.2 mg/L of free chlorine or 0.5 mg/L of chloramines**
 - B. 1.0 mg/L of free chlorine**
 - C. 0.5 mg/L of chlorine only**
 - D. 0.4 mg/L of chloramines only**
- 9. What is the weight of water in terms of lbs per gallon?**
- A. 8.00 lbs/gal**
 - B. 8.34 lbs/gal**
 - C. 9.00 lbs/gal**
 - D. 9.34 lbs/gal**
- 10. What is the primary purpose of the Maximum Contaminant Level (MCL) in drinking water regulations?**
- A. To improve taste**
 - B. To protect public health**
 - C. To reduce treatment costs**
 - D. To manage resources**

Answers

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

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Explanations

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1. Evaporation and transpiration represent which aspect of the water cycle in Texas?

A. Water replenishment

B. Water loss

C. Water filtration

D. Water storage

Evaporation and transpiration are critical processes in the water cycle that specifically pertain to the loss of water from a given system. Evaporation is the process by which water changes from a liquid to a vapor, typically occurring from bodies of water, soil, or other surfaces. Transpiration, on the other hand, refers to the release of water vapor from plants into the atmosphere through small openings in their leaves known as stomata. Together, these processes contribute significantly to the movement of water from the ground and vegetation into the atmosphere, thereby reducing the overall quantity of water available in those areas. Understanding the context of the water cycle in Texas, which can be significantly impacted by climate and land-use changes, highlights that while precipitation adds water to the environment, evaporation and transpiration work in the opposite direction by removing water. This aspect is particularly pertinent given the state's diverse ecosystems and varying moisture levels across different regions. The other factors mentioned—water replenishment, water filtration, and water storage—do not accurately describe the outcomes of evaporation and transpiration. Water replenishment pertains to the addition of water through processes like precipitation, while water filtration relates to the purification of water as it moves through soil or other media. Water storage typically refers

2. What is the minimum normal operating pressure stated for water distribution systems?

A. 20 psi

B. 30 psi

C. 35 psi

D. 40 psi

The minimum normal operating pressure for water distribution systems is 35 psi. This standard ensures that the system can provide adequate pressure for residential and commercial use, including sufficient flow for firefighting, domestic needs, and other essential services. Maintaining a minimum pressure helps prevent water stagnation in the pipes and reduces the likelihood of contamination and other issues that can arise from inadequate pressure. A pressure lower than this could lead to insufficient water delivery during peak usage times or emergencies. This value has been established to support reliable water service while ensuring that infrastructure is protected from damage due to pressure fluctuations.

3. What does alkalinity measure in water?

- A. Temperature resistance
- B. pH stability**
- C. Presence of minerals
- D. Organic matter

Alkalinity measures the capacity of water to resist changes in pH, thereby contributing to its stability. It refers to the presence of bicarbonate, carbonate, and occasionally hydroxide ions, which act as buffers in the water. When acids are introduced into a water body, these buffering agents react with the acids, helping to maintain a stable pH level. This quality is crucial for aquatic ecosystems, as many organisms thrive within specific pH ranges, and significant fluctuations can be detrimental. A higher alkalinity signifies a greater ability to buffer against pH changes, thus supporting a stable environment for aquatic life. The other choices do not accurately define alkalinity. Temperature resistance relates to physical properties of water rather than chemical stability. The presence of minerals is more about hard water or mineral content rather than its buffering capacity. Organic matter impacts water quality but does not serve as a measure of alkalinity.

4. The DPD test method for chlorine residual typically involves the use of what?

- A. A pH meter
- B. A color comparator**
- C. A spectrophotometer
- D. A titration method

The DPD (N,N-diethyl-p-phenylenediamine) test method for measuring chlorine residual is widely utilized due to its simplicity and effectiveness in water analysis. This method relies on a colorimetric reaction, where the DPD reagent reacts with free chlorine in the water sample to form a pink-colored complex. The intensity of the pink color is directly proportional to the concentration of chlorine present in the sample. Using a color comparator is essential for this method because it allows for visual assessment by comparing the color intensity of the treated sample against a set of standard colors to determine the concentration of chlorine. This makes it an accessible and practical approach for field testing or in laboratory settings. While other methods such as spectrophotometry or titration can measure chlorine levels, they are not typically associated with the DPD test in this context. Spectrophotometers provide precise measurements based on light absorbance, and titration methods involve a more complex procedure that is not standard for DPD testing specifically. Therefore, the use of a color comparator aligns perfectly with the DPD test method, facilitating accurate and quick readings of chlorine residual concentrations in water samples.

5. What percentage of chlorine does calcium hypochlorite contain?

- A. 40%-50%**
- B. 60%-70%**
- C. 80%-90%**
- D. 20%-30%**

Calcium hypochlorite typically contains a chlorine concentration that falls within the range of approximately 60% to 70%. This high chlorine content makes it a powerful chemical for disinfection and water treatment applications. The composition of calcium hypochlorite allows for effective bacterial control and algae prevention in water systems. When considering the options provided, the range of 60%-70% is recognized as the standard for commercial-grade calcium hypochlorite, which is why it is the correct answer. In contrast, lower percentages such as 20%-30% or 40%-50% do not accurately reflect the concentration found in calcium hypochlorite, which is formulated to have much higher levels of chlorine to meet the disinfection needs in various water treatment processes. The 80%-90% range exceeds the typical market formulations, which do not support practical use and safety standards for handling and application.

6. What is the general effect of corrosion in water treatment systems?

- A. Increased efficiency**
- B. Reduced water quality**
- C. No impact on operation**
- D. Higher maintenance costs**

Corrosion in water treatment systems primarily leads to reduced water quality, which is why this choice is correct. When pipes and other components of a water treatment system corrode, they can leach metals and other contaminants into the water. This not only affects the taste and appearance of the water but can also pose health risks to consumers due to the potential for harmful substances to enter the drinking supply. Corrosion can create an environment where bacteria can thrive, further compromising water quality. The presence of corrosion products can also interfere with treatment processes, leading to issues such as sediment buildup and increased amounts of residual chemicals in the water. While higher maintenance costs can be associated with corrosion due to the need for repairs or replacements of corroded parts, the primary and more immediate effect is the detrimental impact on water quality. Thus, it is critical for water treatment systems to incorporate protective measures such as corrosion inhibitors and regular monitoring to mitigate these adverse effects.

7. What happens to chlorine leaks in metal containers over time?

- A. They reduce in size**
- B. They become smaller**
- C. They tend to become larger**
- D. They stabilize and stop**

Chlorine leaks in metal containers tend to become larger over time due to the corrosive nature of chlorine gas. When chlorine is stored in metal containers, it can react with the metal, leading to corrosion. This process not only creates pinholes or cracks but can also compromise the structural integrity of the container itself. As corrosion progresses, it can increase the size of these openings, resulting in larger leaks. The other options suggest scenarios where the leaks would either diminish or stabilize, which does not align with the reality of chlorine's effects on metal. In fact, rather than reducing in size, leaks are likely to worsen if the container is not properly managed or replaced, highlighting the importance of regular inspections and maintenance of chemical storage systems.

8. What is the required chlorine residual that distribution systems must maintain in the far reaches according to public water regulations?

- A. 0.2 mg/L of free chlorine or 0.5 mg/L of chloramines**
- B. 1.0 mg/L of free chlorine**
- C. 0.5 mg/L of chlorine only**
- D. 0.4 mg/L of chloramines only**

The requirement for maintaining chlorine residuals in distribution systems is crucial for ensuring that water remains safe and free from harmful contaminants as it travels to consumers. Public water regulations dictate specific residual levels for both free chlorine and chloramines in order to provide adequate disinfection throughout the entire distribution network. The correct choice specifies that the residual must be at least 0.2 mg/L of free chlorine or 0.5 mg/L of chloramines in the far reaches of the distribution system. This dual standard is established because it recognizes the prevalence of both disinfection methods used in water treatment. Free chlorine is more effective as a primary disinfectant, while chloramines are often used for longer-term residual maintenance due to their stability in the distribution system. By having this stipulated residual level, it helps to ensure that enough disinfectant concentration remains by the time the water reaches customers at the furthest points of the system, thus reducing the risk of pathogen regrowth and maintaining safe drinking water standards. The other choices do not meet the required standards as set forth in regulations. For instance, having just 1.0 mg/L of free chlorine or only 0.5 mg/L of chlorine without specifying whether it's free chlorine or chloramines does not encompass the necessary flexibility or requirements.

9. What is the weight of water in terms of lbs per gallon?

- A. 8.00 lbs/gal
- B. 8.34 lbs/gal**
- C. 9.00 lbs/gal
- D. 9.34 lbs/gal

The weight of water is commonly recognized as 8.34 pounds per gallon at a specific temperature, typically around 62 degrees Fahrenheit, which is considered the standard reference temperature for most water density measurements. Water's density can change with temperature and impurities, but the approximate weight of 8.34 lbs/gal is widely used for various calculations in engineering and water resource management. While options suggesting 8.00 lbs/gal and 9.00 lbs/gal may seem plausible, they do not align with the accepted standard for the weight of water. The value of 8.00 lbs/gal is often seen in simplified contexts but does not reflect the standard density value, while 9.00 lbs/gal is too high and not representative of pure water. The option of 9.34 lbs/gal exceeds the typical weight of fresh water under normal conditions and would typically suggest a higher density substance, such as a liquid with additives or impurities. Thus, the weight of water at the standard condition is accurately expressed as 8.34 lbs per gallon, which is effectively used in water quantity calculations for a variety of applications, including hydrology, environmental science, and civil engineering.

10. What is the primary purpose of the Maximum Contaminant Level (MCL) in drinking water regulations?

- A. To improve taste
- B. To protect public health**
- C. To reduce treatment costs
- D. To manage resources

The primary purpose of the Maximum Contaminant Level (MCL) in drinking water regulations is to protect public health. MCLs are established to limit the concentration of specific contaminants in drinking water to ensure it is safe for consumption. These levels are based on health risk assessments and are designed to minimize the potential adverse health effects that could arise from exposure to harmful substances in water. By defining these levels, regulatory agencies can monitor and enforce compliance among water suppliers, ensuring that the drinking water provided to the public meets safety standards. This is particularly important since contaminated water can lead to a variety of health issues, including gastrointestinal illnesses, reproductive problems, and neurological disorders, depending on the nature of the contaminants present. Improving taste, reducing treatment costs, and managing resources are important considerations in the overall management of drinking water systems, but they are secondary to the fundamental goal of safeguarding public health. Thus, the establishment of MCLs is primarily health-centric, focusing on keeping drinking water safe for all consumers.

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://txclasscsurfacewater.examzify.com>

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