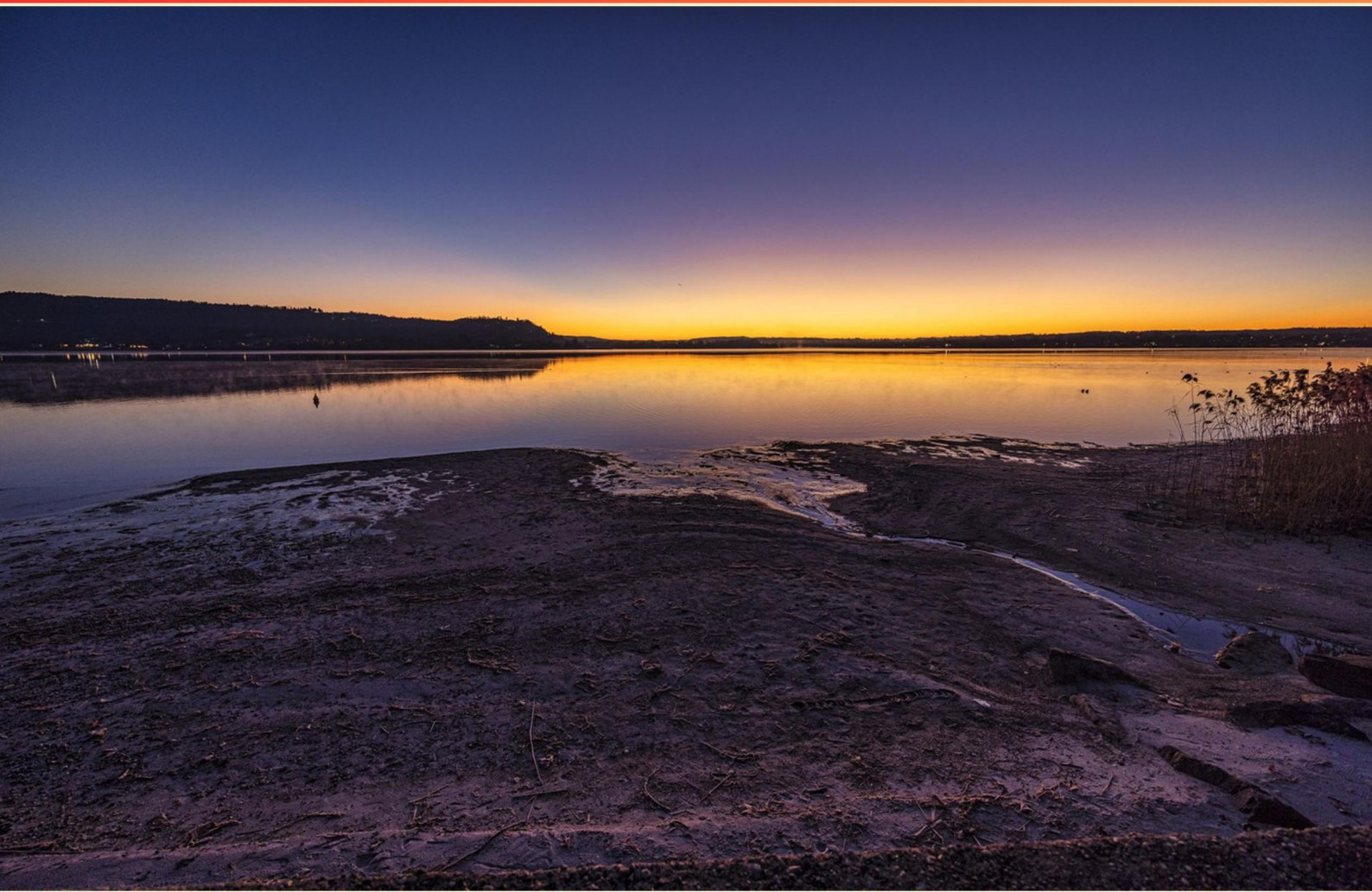


TEXAS CLASS C SURFACE WATER PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

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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. What is the primary purpose of fluoridation in municipal water supplies?**
 - A. To improve taste
 - B. To prevent dental decay
 - C. To enhance color
 - D. To increase pH

- 2. What process is utilized to remove suspended particles and clarify water in treatment plants?**
 - A. Filtration
 - B. Coagulation
 - C. Fluoridation
 - D. Chlorination

- 3. Which agency defines public water systems in Texas?**
 - A. Environmental Protection Agency (EPA)
 - B. Texas Commission on Environmental Quality (TCEQ)
 - C. Department of Water Resources
 - D. Texas Department of Health Services

- 4. What is the volume of a settling tank measuring 100 ft. long, 25 ft. wide, and 8 ft. deep?**
 - A. 10,000 ft³
 - B. 15,000 ft³
 - C. 20,000 ft³
 - D. 25,000 ft³

- 5. What is considered the most effective method for cross connection control?**
 - A. Backflow preventers
 - B. A physical air gap
 - C. Pressure reducing valves
 - D. Regular inspections

6. How much 65% calcium hypochlorite is required to disinfect a water storage tank with a dosage of 50 mg/L, with the tank being 36 feet in diameter and 20 feet high?
- A. 97 lbs
 - B. 45 lbs
 - C. 120 lbs
 - D. 70 lbs
7. How should the packing around the shaft of a centrifugal pump be adjusted?
- A. Tightened completely
 - B. Tightened just enough to allow an occasional drop of liquid to escape
 - C. Loosely fitted to prevent wear
 - D. Removed entirely for better flow
8. What percentage of chlorine does calcium hypochlorite contain?
- A. 40%-50%
 - B. 60%-70%
 - C. 80%-90%
 - D. 20%-30%
9. Why should prepared water sample bottles not be rinsed before collecting samples for bacteriological examination?
- A. Because they contain sodium thiosulfate crystals that neutralize chlorine
 - B. Because they must maintain a sterile environment
 - C. Because they can alter the pH of the sample
 - D. Because they are pre-filled with nutrient broth
10. A pneumatic ejector is used primarily to lift water from low points. What device accomplishes this?
- A. Pump
 - B. Air compressor
 - C. Vacuum system
 - D. Gravity feeder

Answers

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

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Explanations

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1. What is the primary purpose of fluoridation in municipal water supplies?

- A. To improve taste
- B. To prevent dental decay**
- C. To enhance color
- D. To increase pH

Fluoridation of municipal water supplies is primarily aimed at preventing dental decay. The addition of fluoride to drinking water has been widely recognized for its significant role in reducing cavities and improving overall dental health. Fluoride helps to strengthen tooth enamel, making it more resistant to the acids produced by bacteria that cause dental decay. This public health measure has led to a substantial reduction in the incidence of tooth decay, particularly in children, thereby enhancing community oral health outcomes. While factors such as taste, color, and pH can influence water quality, they do not represent the primary aim of fluoridation. Fluoridation is focused specifically on dental health benefits rather than aesthetic or chemical adjustments to the water supply.

2. What process is utilized to remove suspended particles and clarify water in treatment plants?

- A. Filtration
- B. Coagulation**
- C. Fluoridation
- D. Chlorination

Coagulation is a critical process in water treatment plants used to remove suspended particles and clarify water. During coagulation, chemicals, known as coagulants, are added to the water, which allows small suspended particles to clump together into larger aggregates called flocs. This aggregation process significantly improves the efficiency of subsequent treatment steps, such as sedimentation and filtration. Once the particles are aggregated into larger flocs, they can more easily be removed from the water as they either settle at the bottom of the treatment tank or are trapped in the filters. Coagulation is often performed before filtration to ensure that the water entering the filtration stage is as clear as possible, reducing the burden on filtration systems and improving overall treatment effectiveness. In contrast, other processes like filtration is focused on removing particles that have already been agglomerated or are larger, while chlorination and fluoridation serve different purposes, such as disinfection and dental health, rather than directly addressing suspended solids. Thus, coagulation specifically targets the clarification of water through the aggregation of suspended particles, making it the right choice for this process.

3. Which agency defines public water systems in Texas?

- A. Environmental Protection Agency (EPA)
- B. Texas Commission on Environmental Quality (TCEQ)**
- C. Department of Water Resources
- D. Texas Department of Health Services

The Texas Commission on Environmental Quality (TCEQ) is the agency responsible for defining public water systems in Texas. This agency oversees water quality and environmental regulations within the state, ensuring the protection of public health and the environment. TCEQ establishes rules and standards for public water systems, conducts inspections, and monitors compliance with both state and federal regulations. While the Environmental Protection Agency (EPA) sets national standards for water quality and oversees public water systems at the federal level, the TCEQ is tasked with the local implementation and enforcement of these standards in Texas. The Department of Water Resources does not exist as a standalone agency in Texas and is not responsible for the management of water systems. The Texas Department of Health Services focuses more on public health policies and does not specifically define public water systems; rather, it may work in conjunction with TCEQ on health-related issues pertaining to water quality. Thus, the TCEQ's role in defining public water systems is paramount for regulatory compliance and public safety in the state.

4. What is the volume of a settling tank measuring 100 ft. long, 25 ft. wide, and 8 ft. deep?

- A. 10,000 ft³
- B. 15,000 ft³
- C. 20,000 ft³**
- D. 25,000 ft³

To determine the volume of a settling tank, you can use the formula for the volume of a rectangular prism, which is calculated by multiplying the length, width, and depth of the tank. In this instance, the settling tank measures: - Length: 100 ft - Width: 25 ft - Depth: 8 ft The volume calculation would be: Volume = Length × Width × Depth Volume = 100 ft × 25 ft × 8 ft Volume = 20,000 ft³ Thus, the correct choice, representing the volume of the settling tank, is indeed 20,000 ft³. This value reflects the total space within the tank available for sedimentation processes to occur, making it essential for ensuring proper water treatment in surface water systems.

5. What is considered the most effective method for cross connection control?

- A. Backflow preventers
- B. A physical air gap**
- C. Pressure reducing valves
- D. Regular inspections

A physical air gap is considered the most effective method for cross connection control because it provides a permanent, unimpaired separation between potable water and a potential contamination source. This method relies on gravitational forces and does not depend on mechanical parts that could fail or require maintenance. The air gap can be as simple as maintaining a distance between a water outlet and a potential contaminant, ensuring that there is no physical connection between the two systems. By ensuring this separation, the risk of backflow, which could lead to the contamination of the drinking water supply, is effectively mitigated. A properly maintained air gap is highly reliable and complies with regulations and best practices for maintaining water quality. Additionally, it requires no power or moving parts, making it a low-maintenance option compared to backflow preventers or pressure reducing valves, which can fail if not regularly tested and maintained. Regular inspections, while important for identifying and solving potential issues, do not provide the same level of inherent protection that a physical air gap does.

6. How much 65% calcium hypochlorite is required to disinfect a water storage tank with a dosage of 50 mg/L, with the tank being 36 feet in diameter and 20 feet high?

- A. 97 lbs**
- B. 45 lbs
- C. 120 lbs
- D. 70 lbs

To determine how much 65% calcium hypochlorite is needed to disinfect the water storage tank, the first step is to calculate the volume of the tank. Since the tank is cylindrical, the volume can be found using the formula for the volume of a cylinder: $\text{Volume} = \pi \times r^2 \times h$. In this case, the radius (r) is half of the diameter, which is 18 feet (36 feet / 2). The height (h) of the tank is 20 feet. Plugging in these values: $\text{Volume} = \pi \times (18 \text{ ft})^2 \times (20 \text{ ft}) \approx 2036.56 \text{ ft}^3$. To convert cubic feet to gallons, knowing that 1 cubic foot is approximately 7.48 gallons, we multiply the volume by 7.48: $\text{Volume in gallons} \approx 2036.56 \text{ ft}^3 \times 7.48 \approx 15260.48 \text{ gallons}$. Next, to find out how much calcium hypochlorite

7. How should the packing around the shaft of a centrifugal pump be adjusted?

- A. Tightened completely
- B. Tightened just enough to allow an occasional drop of liquid to escape**
- C. Loosely fitted to prevent wear
- D. Removed entirely for better flow

The appropriate adjustment for the packing around the shaft of a centrifugal pump is to tighten it just enough to allow an occasional drop of liquid to escape. This option strikes a balance between preventing leaks and ensuring that there is sufficient lubrication and cooling for the shaft and packing. When packing is too tight, it can lead to increased friction, overheating, and premature wear of both the packing and the shaft. Conversely, if the packing is too loose or removed entirely, it can result in excessive leakage, reduced efficiency, and potential damage to the pump due to lack of lubrication. Therefore, maintaining a slight degree of leakage is beneficial as it indicates that the packing is sealing adequately while preventing excessive wear and allowing for operational effectiveness.

8. 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.

9. Why should prepared water sample bottles not be rinsed before collecting samples for bacteriological examination?

- A. Because they contain sodium thiosulfate crystals that neutralize chlorine**
- B. Because they must maintain a sterile environment
- C. Because they can alter the pH of the sample
- D. Because they are pre-filled with nutrient broth

Prepared water sample bottles for bacteriological examination are specifically designed to ensure accurate and reliable testing results. The presence of sodium thiosulfate crystals in these bottles is significant because their primary role is to neutralize chlorine residuals that may be present in the water sample. Chlorine is commonly used as a disinfectant in municipal water systems, and if it remains in the water sample during testing, it can inhibit the growth of bacteria, leading to inaccurate results. By not rinsing the sample bottles, the sodium thiosulfate can effectively fulfill its purpose of neutralizing any chlorine, allowing the natural bacterial content of the water to be analyzed without interference. Maintaining the integrity of the sample and ensuring no external contaminants are introduced during the collection process are paramount, but the specific action of sodium thiosulfate is critical for the bacteriological testing environment. The other options do provide various reasons related to sample integrity, but they do not directly address the unique function of sodium thiosulfate in the context of chlorine neutralization.

10. A pneumatic ejector is used primarily to lift water from low points. What device accomplishes this?

- A. Pump
- B. Air compressor**
- C. Vacuum system
- D. Gravity feeder

A pneumatic ejector primarily operates by using air pressure to lift water from low points, making an air compressor the correct device for this function. The air compressor generates the necessary pressure to force air into the ejector, creating a vacuum that facilitates the lifting of water. This method relies on the principle of air pressure pushing against the water to lift it, making it effective for situations where traditional pumping methods may not be feasible due to height differences or the need for quick drainage. In comparison, other devices such as pumps are designed to move liquids more directly rather than relying on pneumatic principles, vacuum systems utilize suction but do not achieve the same effect as the pneumatic ejector, and gravity feeders depend on gravitational force rather than mechanical means to move water. Therefore, the unique mechanism of the pneumatic ejector operated by an air compressor is indispensable for effectively lifting water from lower elevations.

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!

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