WSO WATER TREATMENT GRADE 2 PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR THE FULL VERSION STUDY GUIDE

https://wsowatertreatmentgr2.examzify.com

Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright 1
Table of Contents 2
Introduction 3
How to Use This Guide 4
Questions 5
Answers 8
Explanations 10
Next Steps 16

SAMPLE

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.

SAMPLE

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!

SAMPLE

Questions

SAMPLE

1. What is a major concern regarding chlorine as a disinfectant in water treatment?

A. It does not kill bacteria

B. It can lead to taste and odor issues

C. It may generate harmful by-products

D. It is less effective than ozone

2. What is the term for raw water that has undergone pretreatment before entering membrane arrays?

A. Feedwater

B. Permeate

C. Effluent

D. Influent

3. What is the typical backwashing flow rate for a manganese greensand filter bed, depending on water temperature?

A. 5-7 gpm/ft²

B. 10-12 gpm/ft²

C. 15-18 gpm/ft²

D. 20-25 gpm/ft²

4. What is the term for a conical tank used for rapid softening reactions?

A. Pallet reactor

B. Filter press

C. Pellet reactor

D. Settling tank

5. Which addition is needed to precipitate non-carbonate magnesium hardness out of water?

A. Lime

B. Soda ash

C. Chlorine

D. Carbon dioxide

SAMPLE

6. Which type of algae would most likely be found in nutrient-rich waters?

A. Green algae

B. Blue-green algae

C. Red algae

D. Brown algae

7. What is the minimum height of chemical that should be maintained in the saturator at all times?

A. 4 inches (100 mm)

B. 6 inches (150 mm)

C. 8 inches (200 mm)

D. 10 inches (250 mm)

8. Sequestration for iron and manganese is effective in groundwater that has what characteristic?

A. High levels of dissolved oxygen

B. High concentration of iron and manganese

C. Low level of dissolved iron and manganese and no dissolved oxygen

D. Variable levels of dissolved solids

9. Is rainwater considered pure water?

A. Yes, always

B. No, it may contain pollutants from the air

C. Yes, after filtration

D. No, but only in rural areas

10. What is the chemical formula for calcium carbonate?

A. CaCO

B. CaCO

C. Ca(OH)

D. CaCl

SAMPLE

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What is a major concern regarding chlorine as a disinfectant in water treatment?

A. It does not kill bacteria

B. It can lead to taste and odor issues

C. It may generate harmful by-products

D. It is less effective than ozone

One of the significant concerns regarding the use of chlorine as a disinfectant in water treatment is that it may generate harmful by-products. When chlorine reacts with organic matter present in the water, it can form disinfectant by-products such as trihalomethanes (THMs) and haloacetic acids (HAAs), which have raised health concerns due to their potential links to cancer and other long-term health issues. These by-products can accumulate in drinking water systems, prompting regulatory agencies to set limits on their concentrations to protect public health. The focus on minimizing the formation of these harmful substances is a critical aspect of modern water treatment practices.

2. What is the term for raw water that has undergone pretreatment before entering membrane arrays?

A. Feedwater

B. Permeate

C. Effluent

D. Influent

The term for raw water that has undergone pretreatment before entering membrane arrays is "feedwater." Feedwater refers specifically to the water that is prepared and conditioned to remove contaminants and prepare it for further processing, such as filtration or membrane treatment. This pretreatment is crucial, as it helps in enhancing the efficiency and longevity of the membrane systems by reducing fouling and scaling. Permeate refers to the treated water that passes through the membrane, while effluent typically refers to the treated water that is discharged from a treatment system. Influent, on the other hand, describes the incoming water entering a treatment facility before any processing or pretreatment occurs. Understanding these distinctions highlights the role of feedwater as a critical step in the water treatment process, especially in systems utilizing membrane technology.

SAMPLE

3. What is the typical backwashing flow rate for a manganese greensand filter bed, depending on water temperature?

A. 5-7 gpm/ft²

B. 10-12 gpm/ft²

C. 15-18 gpm/ft²

D. 20-25 gpm/ft²

When considering the backwashing flow rate for a manganese greensand filter bed, the correct flow rate typically ranges from 10 to 12 gallons per minute per square foot (gpm/ft²). This appropriate range is influenced by various factors, including the type of media used and the temperature of the water being treated. Backwashing is an essential maintenance process for filter beds, as it helps to remove accumulated particulate matter and restores the media's effectiveness. Manganese greensand specifically requires a substantial flow to ensure that the media is effectively fluidized during the backwashing process. This flow rate is sufficient to dislodge contaminants without damaging the filter bed itself, and it ensures optimal cleaning. Lower backwashing flow rates, such as those found in the option that suggests 5-7 gpm/ft², may not provide enough force to properly clean the bed, while higher rates like 15-18 gpm/ft² or 20-25 gpm/ft² could potentially lead to issues such as media loss or compaction. As a result, the 10-12 gpm/ft² range is optimal for maintaining filter performance and longevity.

4. What is the term for a conical tank used for rapid softening reactions?

A. Pallet reactor

B. Filter press

C. Pellet reactor

D. Settling tank

The term that refers to a conical tank used for rapid softening reactions is known as a pellet reactor. This type of reactor is specifically designed to facilitate the quick mixing of chemicals and water, allowing for efficient softening processes, such as the removal of hardness-causing minerals from water. In a pellet reactor, the conical shape enhances turbulence and mixing, promoting optimal conditions for the chemical reactions that lead to softening. The design enables the rapid formation of precipitates, which are then easily removed from the water. Understanding the function of a pellet reactor is essential for water treatment processes, as it significantly influences the effectiveness and efficiency of softening treatments in municipal and industrial applications.

SAMPLE

5. Which addition is needed to precipitate non-carbonate magnesium hardness out of water?

A. Lime

B. Soda ash

C. Chlorine

D. Carbon dioxide

To precipitate non-carbonate magnesium hardness from water, the addition of lime is necessary. Lime, which consists of calcium hydroxide (Ca(OH)), reacts with the magnesium ions present in the water. In this reaction, magnesium ions combine with hydroxide ions provided by lime to form magnesium hydroxide (Mg(OH)), which is an insoluble compound. As a result, this precipitation process effectively removes magnesium hardness from the water. The role of the hydroxide ions is critical, as they help increase the pH of the water, facilitating the formation of the precipitate. Therefore, the introduction of lime is key to managing non-carbonate hardness, as it specifically targets the magnesium ions that contribute to water hardness beyond the capacity of carbonates. Other substances listed do not precipitate non-carbonate magnesium hardness effectively. Soda ash, while useful for carbonate hardness, does not address non-carbonate magnesium. Chlorine is primarily a disinfectant and does not participate in the precipitation of hardness. Carbon dioxide, on the other hand, can increase acidity and may assist in dissolving some forms of hardness rather than precipitating them.

6. Which type of algae would most likely be found in nutrient-rich waters?

A. Green algae

B. Blue-green algae

C. Red algae

D. Brown algae

Blue-green algae, also known as cyanobacteria, thrive in nutrient-rich waters primarily because they can rapidly utilize the excess nutrients, particularly nitrogen and phosphorus, that often come from agricultural runoff, wastewater discharges, and other sources of pollution. These conditions create an ideal environment for their growth, leading to blooms that can sometimes become quite large and harmful to aquatic ecosystems. While other types of algae, like green algae or brown algae, can also inhabit nutrient-rich waters, blue-green algae are notably known for their ability to proliferate in such environments, often resulting in visible and significant algal blooms. These blooms may deplete oxygen in the water and produce toxins, which can affect aquatic life and human health. Thus, blue-green algae are most commonly associated with nutrient overload situations.

SAMPLE

7. What is the minimum height of chemical that should be maintained in the saturator at all times?

A. 4 inches (100 mm)

B. 6 inches (150 mm)

C. 8 inches (200 mm)

D. 10 inches (250 mm)

Maintaining a minimum height of chemical in a saturator is crucial to ensure proper operation and efficiency in the water treatment process. The correct choice of 6 inches (150 mm) is significant for a couple of reasons. First, this height helps ensure that there is sufficient chemical present to create the necessary saturation level for effective water treatment. If the chemical level drops below this minimum height, it could lead to incomplete saturation of the water being treated, resulting in reduced efficacy in removing impurities and ensuring water quality. Additionally, a minimum height of 6 inches allows for consistent mixing and contact between the water and the chemical. This height facilitates optimal chemical interactions, which are essential for achieving the desired treatment goals. The other options, while potentially representing different standards or practices, do not align with the commonly accepted minimum requirement seen in many water treatment facilities. A height less than 6 inches may fail to provide adequate saturation, whereas a height greater than 6 inches might be unnecessary for certain systems, leading to inefficient use of chemical resources. Thus, the 6 inches specification strikes a balance between ensuring sufficient chemical availability and optimizing operational efficiency.

8. Sequestration for iron and manganese is effective in groundwater that has what characteristic?

A. High levels of dissolved oxygen

B. High concentration of iron and manganese

C. Low level of dissolved iron and manganese and no dissolved oxygen

D. Variable levels of dissolved solids

Sequestration for iron and manganese is particularly effective in groundwater characterized by low levels of dissolved iron and manganese combined with no dissolved oxygen. In cases where there is no dissolved oxygen present, iron and manganese tend to remain in a soluble, reduced state, making it easier to convert and stabilize them through sequestration methods, such as using polyphosphate or other sequestrants that inhibit their oxidation and precipitation. In contrast, when groundwater contains high concentrations of iron and manganese, the effectiveness of sequestration can be compromised due to the abundance of these metals, leading to more significant treatment challenges. High levels of dissolved oxygen can cause both iron and manganese to oxidize, resulting in precipitation that can exacerbate issues in treatment and distribution systems. If groundwater has variable levels of dissolved solids, this inconsistency does not pave the way for effective sequestration because the interaction of various ions and compounds can alter the conditions under which iron and manganese exist in the water. Therefore, the absence of dissolved oxygen is crucial for optimal sequestration in this context.

SAMPLE

9. Is rainwater considered pure water?

A. Yes, always

B. No, it may contain pollutants from the air

C. Yes, after filtration

D. No, but only in rural areas

Rainwater is not considered pure water because it can contain various pollutants that are present in the atmosphere. As rain forms, it can absorb gases, such as sulfur dioxide and nitrogen oxides, and pick up particulate matter while falling through the air. This means that while rainwater may start as relatively clean, it can become contaminated with these pollutants. The presence of these substances can lead to the precipitation of acid rain, which can negatively impact the environment, including soil, water bodies, and plant life. Thus, relying on rainwater as pure water without treating it can pose health risks if it is used for drinking or other purposes. Understanding this is crucial for water treatment operators, as they must ensure that all water sources, including rainwater, are properly tested and treated to remove contaminants before use.

10. What is the chemical formula for calcium carbonate?

A. CaCO

B. CaCO

C. Ca(OH)

D. CaCl

The chemical formula for calcium carbonate is represented as CaCO . This compound consists of one calcium atom, one carbon atom, and three oxygen atoms, which is why the subscript for oxygen is three. Calcium carbonate is commonly found in nature as minerals like calcite and aragonite and is a significant component of limestone and marble. It is also widely used in construction, as a dietary supplement for calcium, and in various industrial applications. The other choices do not represent calcium carbonate: - CaCO suggests a compound that does not exist in a stable form under normal conditions and implies an excess of oxygen. - Ca(OH) represents calcium hydroxide, which is a different compound often used in water treatment and as a caustic soda. - CaCl is calcium chloride, a compound used in de-icing and as a drying agent, which does not contain carbonate. Understanding these chemical formulas and their structures can help clarify their distinct properties and applications.

SAMPLE

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://wsowatertreatmentgr2.examzify.com

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

SAMPLE