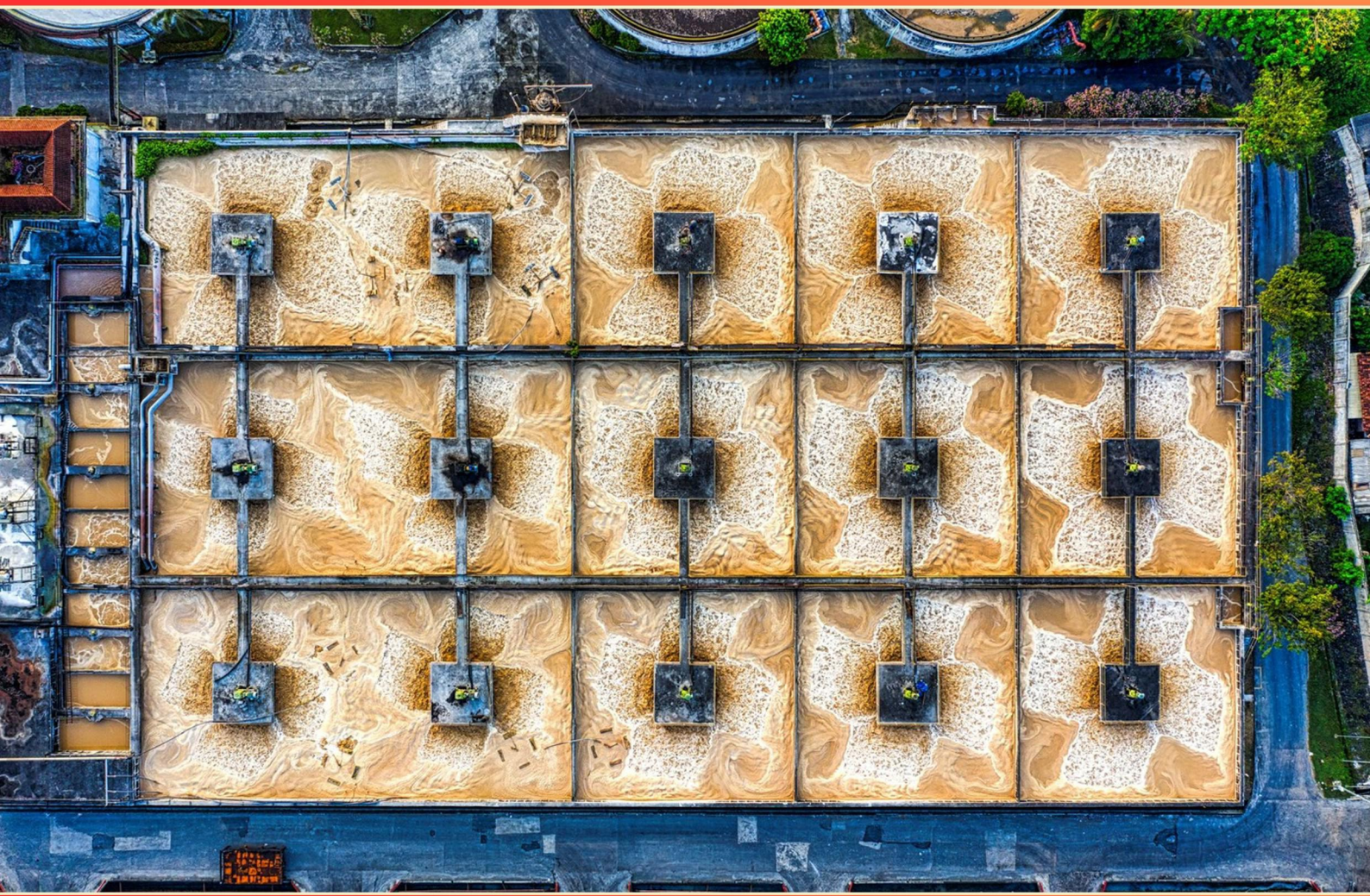
WASHINGTON STATE WATER DISTRIBUTION MANAGER (WDM) 1 CERTIFICATION PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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. Which dichlorination method has the disadvantages of possible overdosing, under dosing, and being hard to tell when the chemical has been depleted?

A. flow-through systems

B. batch dosing

C. premixed solution

D. point dosing

2. A water storage tank with no interior coating has a cathodic protected system installed. What will happen to the anodes?

A. They will disintegrate quickly

B. They will become plated with zinc

C. They will remain intact

D. They will corrode slowly

3. What kinds of methods are used to place grout in the annular space between the well face and the casing?

A. Tremie pour and pumping; dump bailer; water pressure driving

B. Vacuum filling; gravity fill; air lift

C. Jet grouting; cement injection; stirring

D. Spoon feeding; manual tamping; adiabatic mixing

4. Convert 1,750 gpm to gallons per hour.

A. 105,000 gph

B. 1,050 gph

C. 10,500 gph

D. 1,050,000 gph

5. PVC fittings can be used with other pipe types when they share the same outside diameter; which material is commonly paired with PVC for fittings?

A. Copper pipe

B. PVC pipe

C. Ductile-iron pipe

D. Stainless steel pipe

6. In push-on joints, which end is beveled?

A. Spigot end

B. Bell end

C. Both ends

D. Neither end

7. Which statement about the largest hydrant nozzle is correct?

A. To attach a discharge hose from the hydrant

B. To vent air from the system

C. To drain the hydrant's water

D. To connect the pumper suction hose

8. If velocity is 2.85 ft/s in an 8.0 inch pipe, what will the velocity be in a 10.0 inch pipe when the same flow is maintained?

A. 2.85 ft/s

B. 3.50 ft/s

C. 0.92 ft/s

D. 1.83 ft/s

9. Which pipe material is generally favored for water quality, alongside PVC and Concrete Pressure?

A. Cast Iron

B. Lined Ductile Iron

C. Steel

D. Copper

10. Which option is a legitimate method used to place grout in the annular space between the well face and the casing?

A. Tremie pour and pumping; dump bailer; water pressure driving

B. Vacuum injection; jet grouting; air-lift

C. Gravity fill; manual tamping; steam injection

D. Dry packing; vibration compaction; cement mixing

Answers

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

Explanations

1. Which dichlorination method has the disadvantages of possible overdosing, under dosing, and being hard to tell when the chemical has been depleted?

A. flow-through systems

B. batch dosing

C. premixed solution

D. point dosing

Flow-through dosing adds the chlorine continuously as water moves through the system, so the amount delivered is tied to the real-time flow rate and contact time. Because flow and demand can vary, the actual residual in the water can drift—leading to periods of overdosing when flow drops or demand is lower, and underdosing when flow increases or demand rises. Since the chemical is not stored as a defined dose and its presence is spread along the pipe, it's hard to tell exactly when it has been depleted, making it difficult to know when to add more. This combination of variable delivery and hidden depletion is why overdosing, under dosing, and undetected depletion are common with this method.

2. A water storage tank with no interior coating has a cathodic protected system installed. What will happen to the anodes?

A. They will disintegrate quickly

B. They will become plated with zinc

C. They will remain intact

D. They will corrode slowly

In a sacrificial cathodic protection system, the anodes are designed to corrode in place, sacrificing themselves to protect the steel surface. When the tank interior has no coating, the entire interior steel surface is exposed and requires protective current across a large area. The sacrificial anodes must supply that current, so they dissolve to maintain the protected potential. That means the anodes will disintegrate quickly. They don't get plated with zinc, they don't stay intact, and the corrosion rate isn't slow because the uncoated interior drives higher anode consumption to protect the exposed surface.

3. What kinds of methods are used to place grout in the annular space between the well face and the casing?

A. Tremie pour and pumping; dump bailer; water pressure driving

B. Vacuum filling; gravity fill; air lift

C. Jet grouting; cement injection; stirring

D. Spoon feeding; manual tamping; adiabatic mixing

Placing grout in the annular space around the casing relies on methods that keep the grout isolated from groundwater and ensure a dense, void-free fill from the bottom up. A tremie pour uses a submerged, rigid tube lowered into the annulus; grout is pumped through the tube and exits below the water surface, which prevents the grout from being washed away and minimizes segregation. Pumping grout through lines around the casing provides a controlled delivery path to fill the annulus, often used when a tremie setup isn't feasible or the fill needs to be placed from above as the water is displaced. A dump bailer acts like a gravity delivery system, lowering a grout-filled container to a depth and releasing the grout to occupy the space around the casing, useful for targeted placement or larger-diameter annuli. Water pressure driving uses hydraulic pressure to push grout into the annulus, helping to overcome water in the bore and ensure the grout penetrates and fills voids. Other methods such as vacuum filling, gravity filling alone, or approaches like jet grouting, cement injection, stirring, spoon feeding, manual tamping, or adiabatic mixing aren't suited for reliably placing grout in this annular space because they either remove or introduce air, rely on gravity without controlling segregation in a water-filled bore, or are designed for soil stabilization or mixing rather than sealing and stabilizing the well annulus.

4. Convert 1,750 gpm to gallons per hour.

A. 105,000 gph

B. 1,050 gph

C. 10,500 gph

D. 1,050,000 gph

Converting from gallons per minute to gallons per hour uses the simple fact that there are 60 minutes in an hour. Multiply the flow by 60 to switch units. So 1,750 gpm × 60 equals 105,000 gph. Therefore, 105,000 gallons per hour is the correct result. The other numbers come from applying the conversion factor incorrectly—dividing by 60 or multiplying by 600—leading to off-by-factor results.

5. PVC fittings can be used with other pipe types when they share the same outside diameter; which material is commonly paired with PVC for fittings?

A. Copper pipe

B. PVC pipe

C. Ductile-iron pipe

D. Stainless steel pipe

The key idea is that fittings can connect different pipe materials as long as their outside diameters match, so you can use a fitting designed for one material with another if the sizing aligns. Ductile iron pipe uses standard IPS outside diameters that line up with many PVC sizes, and there are abundant transition and adapter fittings to join PVC to DIP. This makes ductile iron a common partner for PVC fittings in water systems, especially when tying new PVC sections into existing DIP mains. Other materials exist for some service connections, but they're not as universally matched with PVC by the standard sizes and available fittings.

6. In push-on joints, which end is beveled?

A. Spigot end

B. Bell end

C. Both ends

D. Neither end

In push-on joints, the spigot end is beveled. The bevel provides a lead-in that guides the male end into the bell and reduces resistance, helping to center the pipe and prevent damage to the gasket as the joint is pushed together. The bell end is the receiving side that contains the gasket seat. This arrangement makes installation smoother and ensures a proper seal.

7. Which statement about the largest hydrant nozzle is correct?

A. To attach a discharge hose from the hydrant

B. To vent air from the system

C. To drain the hydrant's water

D. To connect the pumper suction hose

The largest hydrant nozzle is the pumper suction connection. A pumping engine needs to draw water from the hydrant, so the suction hose is attached to the largest opening to allow a high-volume, low-restriction intake into the pump. Discharge hoses for attack lines use smaller outlets, venting air is done through other fittings, and draining water uses the hydrant's drain or other paths—not the largest inlet. So connecting the pumper suction hose to the largest hydrant nozzle is the correct statement.

8. If velocity is 2.85 ft/s in an 8.0 inch pipe, what will the velocity be in a 10.0 inch pipe when the same flow is maintained?

A. 2.85 ft/s

B. 3.50 ft/s

C. 0.92 ft/s

D. 1.83 ft/s

When the flow rate remains the same, the product of velocity and cross-sectional area is constant ($Q = vA$). For a circular pipe, area is proportional to the square of the diameter, so v scales with the inverse of d^2: $v2 = v1 \times (d1/d2)^2$. Here, d1 = 8 inches and d2 = 10 inches. $(8/10)^2 = (0.8)^2 = 0.64$. Multiply by the original velocity: 2.85 ft/s × 0.64 = 1.824 ft/s, which is about 1.83 ft/s. So the larger pipe slows the flow to roughly 1.83 ft/s when the same amount of water passes through.

9. Which pipe material is generally favored for water quality, alongside PVC and Concrete Pressure?

A. Cast Iron

B. Lined Ductile Iron

C. Steel

D. Copper

Maintaining water quality in a distribution system hinges on choosing pipe interiors that resist corrosion and don't leach metals into the water. Lined ductile iron uses a protective lining (cement-mortar or epoxy) inside the ductile iron pipe, which isolates the water from the metal, greatly reducing corrosion products and taste/odor changes while still offering the strength and durability of iron. This combination makes it a preferred option alongside PVC and concrete pressure pipes for preserving water quality. Cast iron and steel are more prone to corrosion and can affect water quality, and copper, while resistant, is usually more expensive for large mains and has regulatory considerations, so it isn't as broadly favored for distribution pipes.

10. Which option is a legitimate method used to place grout in the annular space between the well face and the casing?

A. Tremie pour and pumping; dump bailer; water pressure driving

B. Vacuum injection; jet grouting; air-lift

C. Gravity fill; manual tamping; steam injection

D. Dry packing; vibration compaction; cement mixing

Placing grout in the annular space around a well casing relies on methods that keep the grout intact as it moves into the space and fills voids without segregation. The tremie pour and pumping method, a dump bailer, and using water pressure to drive the grout are all established ways to achieve that. Tremie pour and pumping involves a sealed pipe that remains wetted as grout is introduced. This keeps the grout from mixing with the surrounding water and groundwater, allowing a continuous grout column to travel down to the bottom and displace water upward, which helps fill the entire annulus evenly. A dump bailer is a tool dropped into the borehole, filled with grout, and released at the bottom. It deposits grout directly where needed, which is especially useful for filling portions of the annulus that are difficult to reach with pumping alone, helping to ensure complete coverage behind the casing. Water pressure driving uses controlled pressure to push grout into the annular space, promoting penetration into small gaps and ensuring the grout advances into all portions of the annulus rather than simply pooling near the top or along the walls. Other listed methods aren't typically used for this specific purpose: they're geared toward different ground-improvement or construction needs, and wouldn't provide the controlled, bottom-up placement and full filling of the annular space that tremie placement, dump bailers, and pressurized grout injection offer.

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://washingtonwdm1.examzify.com

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