# ADEQ Wastewater Collections 1 Practice Test (Sample)

## Study Guide


**Everything you need from our exam experts!**

# Table of Contents

# 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 the most widely used prime mover in pumping plants?**

**A. Gas engine**

**B. Diesel engine**

**C. Steam engine**

**D. Electric motor**

**2. Centrifugal pump parts include**

**A. diaphragm**

**B. piston**

**C. rotor**

**D. volute**

**3. Which of the following is not typical of a 'submersible' pump?**

**A. Can be installed in a crooked hole**

**B. Minimizes vandalism**

**C. Quieter operation**

**D. Requires water lubrication**

**4. Emergency stoppages in pipelines may be cleared safely by use of**

**A. Hand rods**

**B. High velocity cleaners**

**C. Power rodders**

**D. All of the above**

**5. A common name appurtenance used to keep an accidental flow of wastewater from entering a building is called**

**A. Backwater valve**

**B. Barrel**

**C. Cleanout**

**D. Catch basin**

**6. Enclosed, open, and semi-closed are terms used for designation and selection of**

**A. Impellers**

**B. Lantern rings**

**C. Sleeves**

**D. Stuffing boxes**

**7. Which tool is not typically used for sewer rodding?**

**A. Lag screw**

**B. Porcupine**

**C. Root saw**

**D. Square bar cork screw**

**8. Which action is a hallmark of an effective public relations program for a wastewater utility?**

**A. Concise billing**

**B. Encouraging plant visits**

**C. Prompt response to customer complaints**

**D. All of the above**

**9. Which safety practice is true before entering a manhole?**

**A. Only check atmosphere**

**B. Only wear PPE**

**C. Check atmosphere, wear safety equipment, and use barricades**

**D. Ignore warning devices**

**10. When sewer line grades are too flat, an odor problem is likely to result. The most likely cause of the odor problem is deceased velocity, which**

**A. allows decomposable solids to settle**

**B. decreases the treatment time in the lines**

**C. increases the treatment time of inorganic solids**

**D. none of the above**

# Answers

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

# Explanations

## 1. What is the most widely used prime mover in pumping plants?

**A. Gas engine**

**B. Diesel engine**

**C. Steam engine**

**D. Electric motor**

**The key idea is that the prime mover is the device that provides the mechanical energy to drive the pump, and in most pumping plants the electric motor is used for this role. Electric motors are highly reliable, efficient, and easy to control. They run directly from the electrical supply available at most facilities, and with variable frequency drives they can smoothly adjust pump speed to match changing flow and head, which saves energy and improves system performance. They have relatively simple maintenance, long service life, and clean operation with no on-site combustion or exhaust, making them ideal for continuous pumping duties. Diesel or gas engines are used in some situations—typically where electrical power isn't reliable, or where a pump must operate during a power outage or in remote locations—but they come with higher fuel costs, more maintenance, emissions, noise, and start-up considerations, so they aren't as broadly suitable as the primary mover. Steam engines are largely outdated for pumping, replaced by electric motors due to better efficiency and lower maintenance.**

## 2. Centrifugal pump parts include

**A. diaphragm**

**B. piston**

**C. rotor**

**D. volute**

**The main idea is recognizing the parts that form a centrifugal pump and how they work together. The volute is the pump casing that surrounds the impeller. It collects the high-velocity fluid discharged by the impeller and guides it toward the discharge outlet. As the fluid moves through the volute's expanding cross-section, its velocity decreases while its pressure increases, converting kinetic energy into usable pressure for delivery. Diaphragms and pistons are characteristic of positive-displacement pumps, which use a flexible membrane or a moving piston to trap and move a fixed amount of fluid, not the energy-transfer method used in centrifugal pumps. The rotating component that actually imparts energy to the fluid is the impeller (often called rotor in some contexts), but it is the volute that is specifically the stationary casing around the impeller and a standard part of centrifugal pump design.**

## 3. Which of the following is not typical of a 'submersible' pump?

**A. Can be installed in a crooked hole**

**B. Minimizes vandalism**

**C. Quieter operation**

**D. Requires water lubrication**

**Submersible pumps are designed to operate while fully submerged, which lets the surrounding water cool the unit and muffle noise, making them quieter than many above-ground options. Their sealed, compact design also helps protect the motor and impeller from tampering, so vandalism is less likely and installation in tight or irregular boreholes or pits is more feasible. A key point is that lubrication for the moving parts is provided internally—by grease or oil inside the sealed housing—not by the surrounding water. The surrounding water doesn't serve as a lubricant, so requiring water lubrication is not typical of a submersible pump.**

## 4. Emergency stoppages in pipelines may be cleared safely by use of

**A. Hand rods**

**B. High velocity cleaners**

**C. Power rodders**

**D. All of the above**

**Emergency stoppages in pipelines can be cleared safely by using the right tool for the situation, with proper training and safety procedures. Hand rods are useful for quick, light clearances near the access point and for probing a blockage without applying heavy forces. Power rodders provide mechanical force to push and cut through tougher blockages, offering more control than brute pushing. High velocity cleaners (hydro jetting) use high-pressure water to blast away grease, roots, and sediment, effective on stubborn or larger mains but require careful pressure control and correct nozzle use to avoid damaging the pipe. When applied correctly, each method can safely clear an emergency blockage, so using all of the above covers the safe options.**

## 5. A common name appurtenance used to keep an accidental flow of wastewater from entering a building is called

**A. Backwater valve**

**B. Barrel**

**C. Cleanout**

**D. Catch basin**

**The main idea is preventing wastewater from flowing back into a building when the municipal sewer backs up. A backwater valve is a one-way device placed in the building's main sewer line. It stays open to let normal wastewater flow out, but if the sewer tries to push water back toward the building, the valve closes to stop that reverse flow. This protects lower floors and fixtures from sewage backups during heavy flow in the municipal system. The other options don't provide backflow protection. A cleanout is just an access point for cleaning the sewer line; it doesn't stop reverse flow. A catch basin collects surface runoff, not internal sewer backups. A barrel isn't an appurtenance used to prevent backflow.**

## 6. Enclosed, open, and semi-closed are terms used for designation and selection of

**A. Impellers**

**B. Lantern rings**

**C. Sleeves**

**D. Stuffing boxes**

**In pump design, the terms enclosed (closed), open, and semi-closed describe the impeller type—the rotating element that moves the fluid. An enclosed impeller has blades sandwiched between two shrouds, forming a compact passage. A semi-closed impeller has a shroud on one side, with the other side open. An open impeller has blades with no shroud on either side, just attached to the hub. Choosing among these affects performance: closed impellers offer higher efficiency and head for clean liquids but are less forgiving with solids. Semi-closed impellers strike a balance between efficiency and solids handling, while open impellers tolerate solids and are easier to pass and clear debris, which is often desirable in wastewater applications. The other options refer to different pump parts (lantern rings, sleeves, stuffing boxes) related to sealing and packing, not to impeller design, so they aren't described by these terms.**

## 7. Which tool is not typically used for sewer rodding?

**A. Lag screw**

**B. Porcupine**

**C. Root saw**

**D. Square bar cork screw**

**Tools for sewer rodding are chosen for navigating pipes and actually clearing or cutting blockages without harming the pipe. A lag screw is a wood fastener designed to join pieces of wood; its point and threads are meant for wood, not for clearing pipes. In a sewer line, a lag screw wouldn't effectively remove a clog and could snag or damage the pipe if forced through bends. By contrast, a porcupine is a rotating tool with multiple blades to slice through roots, a root saw is designed to cut through intruding roots, and a square bar cork screw acts as a rigid auger to twist through tougher obstructions. So the lag screw isn't used for sewer rodding because its design and purpose don't fit the task of clearing a pipe.**

## 8. Which action is a hallmark of an effective public relations program for a wastewater utility?

**A. Concise billing**

**B. Encouraging plant visits**

**C. Prompt response to customer complaints**

**D. All of the above**

**An effective public relations program for a wastewater utility centers on building trust through clear communication, openness, and accountable service. Concise billing helps customers understand what they're being charged, reducing confusion and potential frustration. Encouraging plant visits invites the public to see operations firsthand, which demystifies wastewater work and demonstrates safety and environmental responsibility. Promptly addressing customer complaints shows that the utility listens, cares about service quality, and acts quickly to fix issues. When these actions are combined, they create a reliable, transparent, and responsive relationship with the community. That broader approach—clear billing, openness through visits, and swift complaint handling—best represents a comprehensive PR strategy for a wastewater utility.**

## 9. Which safety practice is true before entering a manhole?

**A. Only check atmosphere**

**B. Only wear PPE**

**C. Check atmosphere, wear safety equipment, and use barricades**

**D. Ignore warning devices**

**Entering a manhole requires addressing the hazards you'll face before you step in. The safest approach is to combine three steps: check the atmosphere, wear the right safety equipment, and establish barriers around the work area. First, check the atmosphere with a calibrated gas detector to confirm the oxygen level is within safe limits and that hazardous or flammable gases are below allowable levels. If the atmosphere isn't safe, ventilate and monitor until it is, or postpone entry. Continuous monitoring is often needed as conditions can change. Second, wear the appropriate safety equipment. This includes a hard hat, eye and face protection, gloves, and protective clothing, plus footwear suited for the environment. In many cases, a harness and lifeline or supplied-air respirator may be required depending on the atmosphere and confines of the space. The goal is to reduce the risk from physical hazards and exposure to toxic conditions. Third, use barricades and barriers to control access to the area, warn others, and ensure a standby person is available outside the manhole. This helps prevent unauthorized entry and provides a point of contact in case of emergency. Putting all three practices together addresses the main hazards of manhole entry—atmospheric danger, personal protection needs, and bystander or unauthorized entry risk—making it the safest approach.**

**10. When sewer line grades are too flat, an odor problem is likely to result. The most likely cause of the odor problem is deceased velocity, which**

**A. allows decomposable solids to settle**

**B. decreases the treatment time in the lines**

**C. increases the treatment time of inorganic solids**

**D. none of the above**

**Low flow velocity in a sewer line with too-flat a grade means there isn't enough turbulence to keep solids suspended. Decomposable organic solids then settle to the bottom, forming layers where oxygen is scarce. In these settled zones, anaerobic bacteria break down the organics, producing foul gases such as hydrogen sulfide that cause odors. This is why the idea that it allows decomposable solids to settle is the best explanation: the odor stems from the buildup and anaerobic digestion of settled organic matter. The other options aren't the primary cause—odor isn't mainly about shortening or lengthening treatment time in the lines, and inorganic solids don't drive this odor mechanism in the same way.**

# 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://adeqwastewatercollections1.examzify.com**

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