

# Sanitation, Design, and Installation Pre-Board Practice Test (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

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- 1. Which type of vent pipe has no direct connection to plumbing fixtures?**
  - A. Bleeder pipe**
  - B. Exhaust pipe**
  - C. Side vent**
  - D. Ventilating pipe**
  
- 2. What is the required downspout size for a rainfall intensity of 100 mm on a 1200 m<sup>2</sup> deck roof?**
  - A. 75 mm**
  - B. 100 mm**
  - C. 200 mm**
  - D. 150 mm**
  
- 3. What is the correct method for interconnecting a sewer service pipe to a sewer main?**
  - A. Punching a hole to fit the sewer service**
  - B. Welding the service pipe directly to the main**
  - C. Using a saddle clamp for connection**
  - D. Bringing the service pipe into alignment without a hole**
  
- 4. What disinfectant is commonly used for large public water supplies?**
  - A. Ultraviolet rays**
  - B. Ozone**
  - C. Floe**
  - D. Chlorine**
  
- 5. What is the correct way to connect pumps in series to ensure same flow?**
  - A. Different RPM**
  - B. Same GPM**
  - C. Same horsepower**
  - D. Different pressure**

- 6. What is the undesirable type of vegetation formed when a water reservoir is exposed to light?**
- A. Septic scum**
  - B. Sledge**
  - C. Pond scum**
  - D. Floe**
- 7. In plumbing, which type of connection is considered direct waste?**
- A. One terminal solidly joined to the plumbing system**
  - B. Pipes that empty directly into a waterway**
  - C. Pipes that lead to filtration systems**
  - D. Pipes connected to sewage treatment plants**
- 8. For public health reasons, the sanitary drainage system must discharge to what?**
- A. Waterway**
  - B. Public storm drainage**
  - C. Public sewer system**
  - D. Septic tank**
- 9. What is the term for the unobstructed open edge of a fixture?**
- A. Flushing surface**
  - B. Rim**
  - C. Blister**
  - D. Drain board**
- 10. Which method is considered uncommon for supplying water from source to customer?**
- A. Gravity system**
  - B. Distributing reservoir system**
  - C. Direct pressure system**
  - D. Domestic water softener system**

## **Answers**

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

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## **Explanations**

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**1. Which type of vent pipe has no direct connection to plumbing fixtures?**

- A. Bleeder pipe
- B. Exhaust pipe**
- C. Side vent
- D. Ventilating pipe

The concept of vent piping is crucial in plumbing systems as it ensures the proper flow of air and prevents pressure imbalances that can lead to issues like slow drainage or sewer gas infiltration. The correct choice refers to a type of vent pipe that facilitates the ventilation of a system but does not connect directly to any plumbing fixtures. An exhaust pipe primarily serves the purpose of expelling air or gases, typically from appliances such as heaters or dryers, rather than maintaining the balance of pressure within a plumbing system. This distinction is important because while it plays a role in ensuring air quality and efficient operation of appliances, it does not directly relate to the plumbing fixtures themselves or aid in their operation. Understanding the roles of various types of vent pipes is crucial for proper plumbing design and installation. Other choices may involve connections to fixtures or serve different purposes within a plumbing framework, making them less relevant to the specific function of venting without direct links to fixtures.

**2. What is the required downspout size for a rainfall intensity of 100 mm on a 1200 m<sup>2</sup> deck roof?**

- A. 75 mm
- B. 100 mm
- C. 200 mm
- D. 150 mm**

To determine the required downspout size for a specific rainfall intensity and roof area, it's essential to apply the formula that takes into account the volume of water that must be drained. For a rainfall intensity of 100 mm on a 1200 m<sup>2</sup> roof, you first convert the rainfall intensity into an equivalent amount of water: 1. Calculate the volume of water over one hour: A rainfall intensity of 100 mm means that in one hour, the roof will collect 100 mm of water over the entire area. The total volume can be calculated in cubic meters (m<sup>3</sup>) as follows:  $\text{Volume (m}^3\text{)} = \text{area (m}^2\text{)} \times \text{rainfall intensity (m)}$   $\text{Volume} = 1200 \text{ m}^2 \times 0.1 \text{ m} = 120 \text{ m}^3$  2. Next, you need to analyze the drainage capacity. The downspout needs to accommodate this volume of water efficiently to prevent overflow, ponding, or other drainage issues. Understanding that larger downspouts allow for a higher flow rate is essential. A downspout size of 150 mm can handle the expected flow from the roof in a rainfall event of this intensity, allowing water to drain quickly and reducing the risk of clogs and water damage

**3. What is the correct method for interconnecting a sewer service pipe to a sewer main?**

- A. Punching a hole to fit the sewer service**
- B. Welding the service pipe directly to the main**
- C. Using a saddle clamp for connection**
- D. Bringing the service pipe into alignment without a hole**

The correct method for interconnecting a sewer service pipe to a sewer main is to use a saddle clamp for connection. This technique is commonly employed because it allows for a secure and watertight connection without compromising the integrity of the sewer main. A saddle clamp is designed to fit around the existing pipe, creating a branch off the mainline without needing to cut or punch a hole, which can introduce potential weaknesses and contamination risks. Utilizing a saddle clamp is advantageous as it maintains the structural integrity of the sewer main, minimizes the risk of leaks, and often complies with local plumbing codes and regulations. This method also allows for easier maintenance and inspection of both the service line and the main sewer line. It's essential to ensure that the clamp is installed according to the manufacturer's specifications and that appropriate tools are used to tighten the connections securely. The other methods mentioned, such as punching a hole or welding the pipe directly, can lead to structural issues or improperly sealed connections, which could contribute to sewer leaks or increased maintenance needs.

**4. What disinfectant is commonly used for large public water supplies?**

- A. Ultraviolet rays**
- B. Ozone**
- C. Floe**
- D. Chlorine**

Chlorine is a widely used disinfectant for large public water supplies due to its effectiveness in killing a broad spectrum of pathogens, including bacteria, viruses, and parasites. Its long-lasting residual effect also helps maintain water safety over time, as it continues to disinfect even after being added to the water supply. Chlorine is cost-effective and can be easily monitored and controlled, making it a popular choice for water treatment facilities. Other options, while they have certain applications in water treatment, are not as commonly used for large-scale public water supplies. Ultraviolet rays can effectively disinfect water but do not provide a residual disinfectant effect, meaning they do not protect the water once it leaves the treatment facility. Ozone is also a powerful disinfectant but is more expensive and less stable than chlorine, requiring on-site generation and immediate use. Floe is not a disinfectant but is instead related to coagulation processes used to help settle particulate matter in water; it does not serve the purpose of sanitizing water supplies.

**5. What is the correct way to connect pumps in series to ensure same flow?**

- A. Different RPM**
- B. Same GPM**
- C. Same horsepower**
- D. Different pressure**

Connecting pumps in series to ensure the same flow rate requires that they operate at the same gallons per minute (GPM). When pumps are connected in series, the goal is to increase the total head (pressure) while maintaining a consistent flow rate throughout the system. By ensuring that each pump is designed to handle the same flow (same GPM), the system can effectively transfer the liquid without creating flow inconsistencies or adverse effects on pump performance. When pumps share the same flow rate, they can effectively support each other in moving the fluid through the system, allowing the first pump to push fluid into the second without introducing different flow dynamics that could lead to operational problems or inefficiencies. This synchronization is critical because differing flow rates can cause issues such as cavitation or overloading, adversely affecting pump life and overall system performance. Therefore, maintaining the same flow rate is vital for achieving optimal operation when pumps are arranged in series.

**6. What is the undesirable type of vegetation formed when a water reservoir is exposed to light?**

- A. Septic scum**
- B. Sledge**
- C. Pond scum**
- D. Floe**

Pond scum refers to the undesirable type of vegetation that can develop in a water reservoir when it is exposed to light. This phenomenon occurs because sunlight promotes the growth of algae and other aquatic plants, which can quickly proliferate in nutrient-rich water. The presence of pond scum is often indicative of an imbalance in the ecosystem, typically resulting from excess nutrients in the water, such as those from agricultural runoff or wastewater. The growth of this algae can lead to a variety of problems, including decreased water quality, oxygen depletion, and negative impacts on aquatic life. Therefore, recognizing pond scum as a result of light exposure in a reservoir is crucial for maintaining the health of the water ecosystem.

**7. In plumbing, which type of connection is considered direct waste?**

- A. One terminal solidly joined to the plumbing system**
- B. Pipes that empty directly into a waterway**
- C. Pipes that lead to filtration systems**
- D. Pipes connected to sewage treatment plants**

The correct answer refers to a type of connection where one terminal is solidly joined to the plumbing system. This connection is referred to as direct waste because it allows for waste to be disposed of immediately and efficiently within the plumbing infrastructure. This means that the waste is directed away from the fixture and into the waste disposal system without any intermediary processes. Direct waste connections are crucial because they ensure that waste is managed effectively, minimizing the risk of contamination and ensuring that sanitation standards are upheld. This type of connection is designed to maintain an unobstructed flow of waste, allowing for proper drainage. The other options involve different forms of waste management. For example, pipes emptying directly into a waterway can pose environmental concerns and do not represent a closed plumbing system. Pipes leading to filtration systems may be part of a treatment process rather than direct waste disposal. Lastly, pipes connected to sewage treatment plants typically represent a more complex connection involving treatment and processing, rather than a straightforward, direct disposal method.

**8. For public health reasons, the sanitary drainage system must discharge to what?**

- A. Waterway**
- B. Public storm drainage**
- C. Public sewer system**
- D. Septic tank**

The sanitary drainage system is designed to transport and discharge wastewater safely and efficiently to protect public health and the environment. Discharging to a public sewer system is essential for several reasons. Firstly, public sewer systems are designed to handle and treat sewage and wastewater effectively, minimizing the risks of contamination and disease transmission that can arise from improperly managed waste. By directing the effluent to a public sewer, it undergoes treatment at a facility specifically equipped to manage and process sewage, adhering to health and safety regulations. Secondly, public sewer systems typically have the infrastructure and technology in place to manage large volumes of wastewater from multiple sources, which is critical in urban environments where high populations can generate substantial waste. This central management reduces the risk of overflows or leaks that can occur when individual systems, such as septic tanks, are used without proper oversight and maintenance. While other options like waterways or septic tanks may play roles in waste management, they do not offer the same level of treatment and safety assurances provided by public sewer systems. Public storm drainage is not appropriate for sanitary waste, as stormwater systems are intended for rainwater and surface runoff, not sewage.

**9. What is the term for the unobstructed open edge of a fixture?**

- A. Flushing surface**
- B. Rim**
- C. Blister**
- D. Drain board**

The term for the unobstructed open edge of a fixture is referred to as the rim. In the context of sanitation and plumbing fixtures, the rim is a critical design feature that ensures proper flow and drainage of water. It allows water to flow freely without any obstructions, preventing issues like overflow or improper drainage. Understanding the function of the rim is essential in various applications, such as sinks, toilets, and bathtubs, where it plays a vital role in the overall functionality of the fixture. The rim's design can also affect hygiene, as it helps in directing the flow of water effectively to wash away waste and maintain cleanliness. The other terms listed, while related to plumbing and fixtures, do not specifically define the unobstructed open edge. Flushing surface relates to areas designed to enhance cleaning performance, a blister is not commonly associated with fixtures, and a drain board is a surface used for draining dishes and does not pertain to the edge of fixtures directly. Thus, the correct identification of the rim highlights an important aspect of fixture design and sanitation.

**10. Which method is considered uncommon for supplying water from source to customer?**

- A. Gravity system**
- B. Distributing reservoir system**
- C. Direct pressure system**
- D. Domestic water softener system**

The direct pressure system is considered uncommon for supplying water from source to customer because it relies on a continuous pressurization method, which can often be less efficient and more resource-intensive compared to other traditional methods. This system requires pumps to maintain sufficient water pressure at all times, which can lead to increased operational costs and energy usage. In contrast, methods such as gravity systems take advantage of natural elevation differences to move water without the need for extensive pumping, making them more energy-efficient for many applications. The distributing reservoir system allows for the storage of water and helps in managing peak demand without having to continuously pump water. Domestic water softeners are used for treating water quality issues, rather than for primary water supply, making them irrelevant to the method of distribution itself but rather a supplementary treatment system. Therefore, while there are various established methods for water distribution, the reliance on continuous pressure through pumps characterizes the direct pressure system as less common, thus highlighting its distinction compared to more traditional approaches.

## 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](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://sanitationdesinstallpreboard.examzify.com>**

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

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