

# Irrigation Exam 2 Practice (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 pump is best suited for running a chemigation system?**
  - A. Submersible**
  - B. Displacement**
  - C. Gear**
  - D. Centrifugal**
  
- 2. What are the main types of irrigation systems?**
  - A. Flood irrigation, manual irrigation, contour irrigation, and underground irrigation**
  - B. Surface irrigation, drip irrigation, sprinkler irrigation, and subsurface irrigation**
  - C. Hydroponic irrigation, bucket irrigation, rain-fed irrigation, and seepage irrigation**
  - D. Spray irrigation, wave irrigation, trench irrigation, and tube irrigation**
  
- 3. How is 'soil moisture' defined in irrigation terms?**
  - A. The total amount of rainfall received**
  - B. The amount of water contained in the soil, available for plant use**
  - C. The level of groundwater in an area**
  - D. The moisture content in the air above the soil**
  
- 4. What is a common advantage of using a central pivot irrigation system?**
  - A. Flexibility to change crops quickly**
  - B. Even distribution of water across large areas**
  - C. Lower installation costs**
  - D. No energy consumption**
  
- 5. True or False: An increase in the velocity of a fluid reduces the discharge pressure of a pump and also requires less horsepower.**
  - A. True**
  - B. False**
  - C. Only for Positive Displacement Pumps**
  - D. Only in Gravity Systems**

- 6. What type of phase power is typically used with large pumps and in industrial applications?**
- A. Single phase**
  - B. Two phase**
  - C. Three phase**
  - D. Quadrature phase**
- 7. Which device is commonly used to measure water flow in an irrigation system?**
- A. Flow meter**
  - B. Pressure gauge**
  - C. Thermometer**
  - D. Vacuum gauge**
- 8. Which two classifications describe motor duty?**
- A. Continuous and Cyclical**
  - B. Continuous and Intermittent**
  - C. Variable and Fixed**
  - D. Operational and Standby**
- 9. What does PPI stand for in irrigation terminology?**
- A. Pump pressure indicator**
  - B. A type of micro sprinkler fitting**
  - C. Pound per inch**
  - D. Pressure per irrigation**
- 10. What is the resulting pressure suitable for a wheel line sprinkler system when the elevation difference is 45 feet?**
- A. Yes, it is sufficient**
  - B. No, the psi is not high enough**
  - C. Yes, but only for a short duration**
  - D. No, it's too high**

## Answers

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

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## **Explanations**

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**1. Which type of pump is best suited for running a chemigation system?**

- A. Submersible**
- B. Displacement**
- C. Gear**
- D. Centrifugal**

In a chemigation system, which involves the application of fertilizers, pesticides, or other chemicals into irrigation water, the type of pump used is crucial for effective performance and reliability. Displacement pumps, also known as positive displacement pumps, are particularly well-suited for this application for several reasons. Displacement pumps operate by trapping a fixed amount of liquid and then forcing that liquid out into the discharge pipe. This mechanism ensures a consistent flow even against varying pressure conditions, which is important in chemigation. Chemicals often need to be dosed accurately to prevent crop damage or inefficient uptake, and displacement pumps can provide this consistent and precise flow rate. Moreover, these pumps can handle viscous fluids and accommodate solid particles better than other pump types, which is often necessary given that fertilizers and pesticides can have various formulations. This ability to maintain a steady, accurate flow helps in maintaining the effectiveness of the chemigation system. While submersible, gear, and centrifugal pumps each have their own advantages, they may not consistently offer the same level of precision and reliability needed for efficiently delivering chemicals in an irrigation system. For instance, centrifugal pumps are usually the most common type used in irrigation for moving water but can struggle with fluctuations in pressure and may not handle viscous liquids

**2. What are the main types of irrigation systems?**

- A. Flood irrigation, manual irrigation, contour irrigation, and underground irrigation**
- B. Surface irrigation, drip irrigation, sprinkler irrigation, and subsurface irrigation**
- C. Hydroponic irrigation, bucket irrigation, rain-fed irrigation, and seepage irrigation**
- D. Spray irrigation, wave irrigation, trench irrigation, and tube irrigation**

The primary types of irrigation systems encompass techniques that are widely recognized for their efficiency and effectiveness in delivering water to crops. Surface irrigation, commonly used in many agricultural settings, involves the application of water over the soil surface and relies on gravity to distribute water across the field. Drip irrigation is a highly efficient method, delivering water directly to the root zone of plants through a network of tubes and emitters, thereby minimizing water waste and maximizing plant uptake. Sprinkler irrigation simulates rainfall and can be adaptable for different crops and terrains, employing a system of pipes and pumps to distribute water through spray nozzles. Lastly, subsurface irrigation involves placing the irrigation lines below the soil surface, which reduces evaporation losses and can promote healthier root systems. These methods are recognized for their technological advancements and practical applications in modern agriculture, illustrating how they cater to different types of crops and soil conditions, thereby enhancing water use efficiency compared to other choices listed.

### 3. How is 'soil moisture' defined in irrigation terms?

- A. The total amount of rainfall received
- B. The amount of water contained in the soil, available for plant use**
- C. The level of groundwater in an area
- D. The moisture content in the air above the soil

In irrigation terms, 'soil moisture' refers to the amount of water that is held in the soil and is available for plant uptake. This definition focuses on the water that exists in the soil's pore spaces, which is crucial for supporting plant growth and development. Soil moisture is essential for maintaining appropriate moisture conditions, allowing roots to absorb water and nutrients effectively. The other choices do not adequately capture the concept of soil moisture. The total amount of rainfall does not account for factors such as evaporation and infiltration that affect the water's availability to plants. The level of groundwater is related but refers specifically to water found below the ground surface and not the moisture that plants can access. Meanwhile, the moisture content in the air deals with atmospheric humidity rather than the water present in the soil itself. Therefore, the correct choice emphasizes the crucial relationship between the water contained in the soil and the needs of plants for that water.

### 4. What is a common advantage of using a central pivot irrigation system?

- A. Flexibility to change crops quickly
- B. Even distribution of water across large areas**
- C. Lower installation costs
- D. No energy consumption

A central pivot irrigation system is designed to provide an efficient and uniform application of water over extensive agricultural fields. This system rotates around a central pivot point, allowing for the even distribution of water in a circular pattern. The design ensures that every part of the field receives a consistent amount of water, which is vital for promoting healthy plant growth and optimizing crop yields. This uniformity in water application helps reduce the risk of overwatering or underwatering, which can negatively affect crop health and lead to issues such as root rot or drought stress. It is particularly advantageous in large fields, where manual irrigation methods may lead to inconsistent water delivery. The technology used in central pivot systems also helps reduce water wastage by minimizing runoff and evaporation, further supporting efficient irrigation practices. While other options might have their own merits, such as lower installation costs or the flexibility to switch crops, they do not provide the same level of efficiency in water distribution across large areas, which is a significant benefit of using a central pivot irrigation system.

**5. True or False: An increase in the velocity of a fluid reduces the discharge pressure of a pump and also requires less horsepower.**

**A. True**

**B. False**

**C. Only for Positive Displacement Pumps**

**D. Only in Gravity Systems**

The assertion that an increase in the velocity of a fluid reduces the discharge pressure of a pump and that it requires less horsepower is indeed false. In a pumping system, when the velocity of the fluid increases, it is often associated with an increase in dynamic pressure, which can contribute to higher discharge pressure rather than a reduction. The energy required to move the fluid also typically rises with increased velocity because the pump must work harder to overcome the additional friction losses and changes in pressure that come with faster flow. Furthermore, the relationship between horsepower and velocity is not straightforward. Higher fluid velocities can lead to increased energy losses due to turbulence and friction in pipes, which can actually necessitate more horsepower to maintain the desired flow rate. Thus, stating that increased velocity requires less horsepower does not accurately reflect the operational dynamics of most pumping systems. Understanding these principles helps clarify the relationship between fluid velocity, discharge pressure, and power requirements in various pumping contexts.

**6. What type of phase power is typically used with large pumps and in industrial applications?**

**A. Single phase**

**B. Two phase**

**C. Three phase**

**D. Quadrature phase**

The correct choice identifies three phase power as the most commonly used type for large pumps and industrial applications due to its efficiency and capability to provide a consistent power supply. In three phase systems, electrical power is delivered through three separate conductors, each carrying an alternating current that reaches its peak at different intervals. This results in a much smoother and more stable power delivery compared to single phase or two phase systems. Three phase power provides several advantages that make it suitable for heavy-duty applications. It can transmit energy more efficiently over long distances, reducing energy losses. Additionally, it allows motors to operate at a higher power factor, which means they can deliver more efficient performance with less energy waste, making it ideal for applications requiring substantial power like large pumps, conveyor systems, and various types of machinery in industrial settings. In contrast, single phase systems are typically used for residential or light commercial applications, while two phase systems are largely obsolete and rarely used in modern applications. Quadrature phase is a less common term and not typically used in standard power supply contexts, reinforcing the preference for three phase systems in more demanding environments.

**7. Which device is commonly used to measure water flow in an irrigation system?**

- A. Flow meter**
- B. Pressure gauge**
- C. Thermometer**
- D. Vacuum gauge**

The flow meter is specifically designed to measure the volume of water flowing through a system over a set period of time. In irrigation, understanding the flow rate is essential for effective water management, ensuring that plants receive the right amount of water for optimal growth. Flow meters can provide real-time data, allowing operators to adjust irrigation schedules and systems based on actual usage and needs of the crops. On the other hand, a pressure gauge measures the pressure of water in the system but does not indicate the amount of water being delivered. A thermometer measures temperature, which, while important for overall plant health, does not relate to water flow. Similarly, a vacuum gauge measures negative pressure within a system, which is not relevant when it comes to assessing water flow rates in irrigation. Thus, the flow meter stands out as the most suitable and relevant device for this purpose.

**8. Which two classifications describe motor duty?**

- A. Continuous and Cyclical**
- B. Continuous and Intermittent**
- C. Variable and Fixed**
- D. Operational and Standby**

Motor duty classifications are essential for understanding how electric motors operate under different conditions. Continuous duty refers to motors designed to operate continuously under load without overheating or suffering significant wear and tear. This classification is crucial for applications where a consistent output is required over an extended period, such as in agricultural or industrial irrigation pumps. Intermittent duty, on the other hand, describes motors that operate for short periods, followed by rest periods. This classification is suitable for applications where the motor does not need to maintain a constant operation, allowing it to cool down during periods of inactivity. This could be applicable in scenarios where pumps are only needed to operate at intervals rather than continuously. Together, these two classifications—continuous and intermittent—cover a broad range of motor applications, making option B the most accurate choice. Other classifications, such as cyclical or variable, may relate to operational patterns but do not capture the fundamental aspects of how motor duty is defined in terms of usage duration and frequency.

**9. What does PPI stand for in irrigation terminology?**

- A. Pump pressure indicator
- B. A type of micro sprinkler fitting**
- C. Pound per inch
- D. Pressure per irrigation

The correct term represented by PPI in irrigation terminology is not indeed related to a micro sprinkler fitting. Instead, PPI commonly stands for "Pressure per Irrigation," which describes the measurement of pressure associated with irrigation systems. This metric is crucial for understanding how efficiently water is delivered to crops and the overall functionality of irrigation systems. In irrigation, pressure measurements influence the uniformity of water distribution and can determine the effectiveness of different irrigation methods. A deeper understanding of pressure management can lead to improved irrigation practices, better crop yields, and more efficient water use. While there are other concepts like pump pressure indicators or metrics related to pounds per inch, these terms do not accurately capture the broader application of PPI in the context of irrigation strategies and practices.

**10. What is the resulting pressure suitable for a wheel line sprinkler system when the elevation difference is 45 feet?**

- A. Yes, it is sufficient
- B. No, the psi is not high enough**
- C. Yes, but only for a short duration
- D. No, it's too high

To determine whether the pressure is suitable for a wheel line sprinkler system given an elevation difference of 45 feet, it's important to understand how elevation affects water pressure. Water pressure decreases by approximately 0.433 psi for every foot of elevation gain. Therefore, for a 45-foot elevation difference, the pressure loss would be calculated as follows:  $45 \text{ feet} * 0.433 \text{ psi/foot} = \text{approximately } 19.485 \text{ psi}$ . This means that if the original pressure was close to or below this value, it might not be sufficient to ensure proper sprinkler operation. For a wheel line sprinkler system to function effectively, it typically requires a minimum pressure range depending on the specific design and size of the system. If the resulting pressure after accounting for the elevation loss does not meet this minimum requirement, then it would indeed be insufficient, confirming that the psi is not high enough for optimal performance in this scenario. Knowing this, recognizing that the pressure after the elevation change would be inadequate aligns with the reason for selecting this option.

## 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://irrigation2.examzify.com>**

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

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