

Illinois State Plumbing Practice Exam (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. Piping and fixtures for standards not adopted by the Code may be installed with permission from which agency?**
 - A. Environmental Protection Agency**
 - B. Illinois Department of Public Health**
 - C. City Building Department**
 - D. Local Plumbing Inspector**

- 2. Tuberculation is a corrosion-related condition inside piping. It most directly affects which part of the pipe?**
 - A. Exterior Surface**
 - B. Joints**
 - C. Insulation**
 - D. Interior Walls**

- 3. What device controls the water temperature maintained in a hot water tank for single-family use?**
 - A. Thermostat**
 - B. Pressure reducing valve**
 - C. Thermometer**
 - D. Mixer**

- 4. Backflow devices must be installed in a way that they are protected from which conditions?**
 - A. Corrosion and Vibration**
 - B. Freezing and Flooding**
 - C. High Temperature**
 - D. Dust and Debris**

- 5. Indirect waste to sanitary waste line maximum developed length is how many feet?**
 - A. 3 feet**
 - B. 6 feet**
 - C. 7 feet**
 - D. 5 feet**

- 6. Which term describes joining plastic pipe to fittings by chemical fusion?**
- A. Solvent Weld**
 - B. Solder**
 - C. Brazing**
 - D. Compression**
- 7. In drainage venting, which vent extends above the highest drain on the stack to allow air entry?**
- A. Trap**
 - B. Fresh Air Inlet**
 - C. Stack Vent**
 - D. Rain Vent**
- 8. What is the unobstructed open edge of a fixture called?**
- A. Rim**
 - B. Lip**
 - C. Bead**
 - D. Spout**
- 9. All showers and shower-baths must be provided with what type of device?**
- A. A thermostatic, pressure balance, or combination controlled mixing valve**
 - B. A standard shower valve**
 - C. A pressure relief valve**
 - D. A simple valve**
- 10. Which factors affect vent size?**
- A. Size of Soil Stack**
 - B. DFUs Connected**
 - C. Length of Vent**
 - D. All of the Above**

Answers

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

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Explanations

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1. Piping and fixtures for standards not adopted by the Code may be installed with permission from which agency?

A. Environmental Protection Agency

B. Illinois Department of Public Health

C. City Building Department

D. Local Plumbing Inspector

If a piping or fixture standard isn't included in the adopted Code, permission to install it comes from the state authority that oversees the Plumbing Code. In Illinois, that is the Illinois Department of Public Health. They have the authority to approve alternate materials or non-code installations to protect public health and safety, through an approval process. Local inspectors or city building departments enforce the adopted Code and issue permits, but they generally rely on IDPH approvals for any deviations from the Code. The Environmental Protection Agency handles environmental issues and isn't the agency that authorizes non-adopted plumbing standards.

2. Tuberculation is a corrosion-related condition inside piping. It most directly affects which part of the pipe?

A. Exterior Surface

B. Joints

C. Insulation

D. Interior Walls

Tuberculation is a form of internal corrosion that forms raised lumps on the inside surface of metal pipes. As the pipe material corrodes, corrosion products build up and create tubercles that protrude into the bore. These deposits directly affect the interior walls, narrowing the interior passage and roughening the surface, which impedes flow and can trap sediment. Since the change occurs on the inner surface of the pipe, the exterior surface, joints, or insulation aren't the primary areas impacted by tuberculation. The interior walls are the correct focus because that's where the corrosion and resulting flow restriction occur.

3. What device controls the water temperature maintained in a hot water tank for single-family use?

A. Thermostat

B. Pressure reducing valve

C. Thermometer

D. Mixer

The device that controls the water temperature maintained in a hot water tank for a single-family home is the thermostat. The thermostat senses the water temperature inside the tank and turns the heating element (electric) or burner (gas) on and off to hold the water at the programmed setpoint. This regulation keeps the tank at a consistent temperature. A pressure reducing valve only lowers incoming water pressure, not temperature. A thermometer merely measures temperature without controlling it. A mixer blends hot and cold water at the fixtures to achieve a comfortable outlet temperature, but it does not regulate the tank's temperature itself.

4. Backflow devices must be installed in a way that they are protected from which conditions?

A. Corrosion and Vibration

B. Freezing and Flooding

C. High Temperature

D. Dust and Debris

Backflow devices must be protected from conditions that can directly damage their operation in the field. Freezing temperatures are a major risk because water inside the device can freeze, expand, and damage diaphragms, seals, or valve seats, causing malfunction. To prevent that, install the device in a location that stays above freezing or provide insulation or heating as needed. Flooding is the other critical risk; rising water or submersion can physically damage the device, push debris into it, or compromise vents and relief paths, all of which can allow backflow to occur or contaminate the system. Soations that keep the device out of flood-prone areas and sheltered from freezing protect its integrity and reliability. Other issues like corrosion, vibration, high temperature, or dust can be managed through general practice and maintenance, but freezing and flooding are the primary concerns to address in installation.

5. Indirect waste to sanitary waste line maximum developed length is how many feet?

A. 3 feet

B. 6 feet

C. 7 feet

D. 5 feet

Indirect waste piping must stay within a short distance to the sanitary waste line so the system can vent properly and maintain an effective air gap or receptor arrangement. The maximum developed length for this connection is five feet, measured along the actual pipe run from the indirect waste outlet to the point it joins the sanitary waste line. Keeping it to five feet helps prevent issues like siphonage or backflow and ensures the waste discharges into the proper receptacle or drain promptly. If more length were needed, the installation would require a different configuration to preserve venting and the integrity of the waste system.

6. Which term describes joining plastic pipe to fittings by chemical fusion?

- A. Solvent Weld**
- B. Solder**
- C. Brazing**
- D. Compression**

Joining plastic pipe to fittings by chemical fusion is achieved with solvent weld. The solvent cement softens the plastic surfaces so the pipe and fitting fuse together as the solvent evaporates, creating a joint that becomes one continuous piece of material. This method is common for PVC and CPVC (and ABS with the appropriate cement). The typical process involves cleaning and priming the surfaces, applying the solvent cement to both the pipe end and the fitting, inserting the pipe fully, and holding it in place until the joint sets. This approach contrasts with soldering or brazing, which use metal filler and high heat for copper or other metals, and with compression joints, which seal with a gasket and nut without fusing the plastics. When cured properly, solvent-welded joints form a strong, leak-resistant plastic connection.

7. In drainage venting, which vent extends above the highest drain on the stack to allow air entry?

- A. Trap**
- B. Fresh Air Inlet**
- C. Stack Vent**
- D. Rain Vent**

Vent piping in a drainage system keeps trap seals from being sucked dry and helps water flow move smoothly by letting air enter as needed. The vent that rises above the highest drain on the stack serves this exact purpose: it provides a pathway for outside air to enter the drainage system, balancing pressure so traps aren't siphoned and sewer gases are vented safely above the building. The trap itself is what seals sewer gas at a fixture, not a vent; a fresh air inlet is a different method of introducing air and isn't the main air-entry vent above the stack; a rain vent handles roof drainage specifics and isn't the primary stack vent.

8. What is the unobstructed open edge of a fixture called?

- A. Rim**
- B. Lip**
- C. Bead**
- D. Spout**

The unobstructed open edge of a fixture is called the rim. The rim is the outer edge around the top opening of a sink, basin, or similar fixture, and it defines the boundary where the fixture meets the surrounding surface or mounting. A lip is a projecting edge and isn't the open edge itself, a bead is a small rounded ridge used for styling or sealing, and a spout is the water outlet rather than the edge of the opening. So rim is the right term for that edge.

9. All showers and shower-baths must be provided with what type of device?

- A. A thermostatic, pressure balance, or combination controlled mixing valve**
- B. A standard shower valve**
- C. A pressure relief valve**
- D. A simple valve**

Preventing scalding and keeping a safe, consistent shower temperature is what this rule is about. A shower or shower-bath must have a device that actively controls the mix of hot and cold water to limit the outlet temperature, even if supply pressures or temperatures elsewhere in the system change. A thermostatic mixing valve, a pressure-balance valve, or a combination controlled mixing valve accomplishes this by adjusting the blend reactively to maintain a safe set temperature. Without this, fixed or simple valves can deliver dangerously hot water during fluctuations, which is especially risky for children, the elderly, or sensitive users. A standard shower valve may regulate flow but doesn't guarantee temperature control. A pressure relief valve protects the heater from overpressure, not the user's temperature, and a simple valve provides no automatic temperature control.

10. Which factors affect vent size?

- A. Size of Soil Stack**
- B. DFUs Connected**
- C. Length of Vent**
- D. All of the Above**

Vent size is driven by how much air the system needs to prevent trap siphonage as drainage occurs. That demand comes from three things: the number of fixtures connected (the fixture unit load), how long the vent run has to be (the distance air must travel to reach the other traps and the stack), and the size of the soil stack that the vent serves. More fixtures mean more air is needed, a longer vent run means more resistance to air flow and may require a larger diameter, and a larger soil stack can create bigger pressure changes that the vent must accommodate. Because each of these factors can change the amount of air needed to keep traps from siphoning, all of them influence the required vent size.

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://ilstateplumbing.examzify.com>

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

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