FDNY COF FOR FLAMMABLE-REFRIGERANT REFRIGERATION SYSTEMS (B28) PRACTICE TEST (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.

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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!

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Questions

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1. Which energy storage technology is described as long duration and scalable?

A. Lithium-ion

B. Flow

C. Nickel Cadmium

D. Nickel Metal Hydride

2. Select the complete action plan for permit renewals or equipment changes for a B28 system.

A. Update permits to reflect changes, retrain personnel

B. Reassess risk, update procedures

C. Retrain personnel, update procedures, and update permits to reflect changes.

D. Reassess risk, update procedures, retrain personnel, and update permits to reflect changes.

3. Which term describes a written statement certifying that an article, device, or equipment has been examined, tested, and approved for specific use in conformity with the Fire Code or Fire Department Rules?

A. Certificate of Approval

B. Approved

C. AHJ

D. Central Station

4. In the ESS decommissioning process, which activity follows system shutdown?

A. Removal of hazardous materials

B. Disconnection

C. Site restoration

D. Site assessment

5. What is a primary purpose of maintaining maintenance logs and inspection reports for ESS?

A. To track the aesthetic condition of the equipment.

B. To support incident investigations and compliance verification.

C. To estimate future market price.

D. To train new staff on unrelated topics.

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6. Which steps are involved in the commissioning of an ESS?

A. Budget approval, marketing, installation, and retirement.

B. Planning, installation, initial testing, performance verification, documentation, and handover.

C. Design, procurement, installation, and closure.

D. Site selection, zoning, and regulatory waiver.

7. Which term describes the process of modifying a signal in a way that prepares it for the next stage of processing?

A. The provision of fresh air to a room, building, or other enclosed space, or the removal of stale or contaminated air.

B. The process of modifying a signal in a way that prepares it for the next stage of processing.

C. A set of step-by-step instructions compiled by an organization to help workers carry out routine operations.

D. A systematic approach to managing safety, including organizational structures, accountabilities, policies, and procedures.

8. Which of the following are considerations for outdoor equipment housing for B28 systems?

A. Weatherproof enclosures, anti-arcing considerations, protected from ignition sources, and proper drainage and ventilation

B. Only Weatherproof enclosures

C. Only anti-arcing considerations

D. Only proper drainage and ventilation

9. Battery Module is defined as?

A. A module consisting of a number of cells generally connected in either series or parallel.

B. A device used to vertically store battery modules.

C. An alarm receiver.

D. An approved piece of equipment.

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10. Which refrigerant classifications are typically regulated under B28?

A. Mildly flammable only.

B. All refrigerants regardless of flammability.

C. Highly flammable refrigerants (A3), such as propane (R-290) and isobutane (R-600a).

D. Non-flammable refrigerants only.

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Answers

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

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Explanations

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1. Which energy storage technology is described as long duration and scalable?

A. Lithium-ion

B. Flow

C. Nickel Cadmium

D. Nickel Metal Hydride

Flow batteries deliver energy in a way that naturally supports long duration and scalable storage. In a flow system, the energy is stored in liquid electrolytes held in external tanks, while the power comes from a separate electrochemical stack. Because the energy reservoir can be enlarged by increasing tank size, you can raise the total stored energy without changing the power hardware, and you can also increase power by adding more stacks. This decoupling of energy and power makes flow batteries well suited for multi-hour to day scale energy storage. Other chemistries store energy in solid electrodes, so increasing stored energy typically means bigger or more modules, which isn't as straightforward or cost-effective for very long-duration storage. Nickel cadmium and nickel metal hydride have longer histories and good cycle life, but their fixed energy density and other drawbacks make them less ideal for scalable, long-duration applications compared to flow chemistry.

2. Select the complete action plan for permit renewals or equipment changes for a B28 system.

A. Update permits to reflect changes, retrain personnel

B. Reassess risk, update procedures

C. Retrain personnel, update procedures, and update permits to reflect changes.

D. Reassess risk, update procedures, retrain personnel, and update permits to reflect changes.

When a permit is up for renewal or equipment changes are made to a B28 system, you must go through a full, integrated change management process: reassess the risk, update procedures, retrain personnel, and update permits to reflect the changes. Reassessing risk catches any new or altered hazards introduced by the change, such as potential ignition sources, changes in ventilation, or leaks, and helps determine what controls are still effective. Updating procedures ensures the exact steps, safety measures, and operating limits reflect the new configuration. Retraining personnel makes sure the crew understands and can correctly follow those updated procedures in real-world operation. Finally, updating permits aligns the official documentation with the actual system, ensuring regulatory compliance and that inspections and approvals accurately reflect the current setup. Other options fall short because they omit one or more essential elements. Simply updating permits without addressing new hazards or training leaves the change misdocumented and potentially unsafe. Updating procedures without ensuring staff are trained or permits are updated can result in workers following outdated guidance or operating under incorrect approvals. Reassessing risk without updating procedures, training, or permits leaves the actual practice unverified and unrecorded, increasing the chance of unsafe operation. The complete plan brings together risk, guidance, competency, and documentation to manage the change safely and compliantly.

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3. Which term describes a written statement certifying that an article, device, or equipment has been examined, tested, and approved for specific use in conformity with the Fire Code or Fire Department Rules?

A. Certificate of Approval

B. Approved

C. AHJ

D. Central Station

A formal document that certifies a product has been examined, tested, and approved for use under the Fire Code is called a Certificate of Approval. This written certificate explicitly ties the article, device, or equipment to conformity with the Fire Code or Fire Department Rules, confirming it meets the required standards for its specific use. The other terms describe different things: "Approved" is just a status indicating compliance, not a document; the Authority Having Jurisdiction (AHJ) is the entity that issues approvals; and a Central Station is a monitoring facility, not a certification. So the Certificate of Approval precisely matches the description.

4. In the ESS decommissioning process, which activity follows system shutdown?

A. Removal of hazardous materials

B. Disconnection

C. Site restoration

D. Site assessment

Isolating the system from its services is the next safety step after shutdown. Once the ESS is shut down, disconnecting it from power and from its service lines ensures it cannot be energized or started again and prevents any accidental refrigerant release during decommissioning. This disconnection creates a safe boundary so technicians can remove hazardous materials and perform further assessments and restoration without the risk of re-energizing or re-connecting live systems. After disconnection, the workflow typically proceeds to removal of hazardous materials, then site assessment, and finally site restoration, with each step safeguarding workers and the environment as decommissioning progresses.

5. What is a primary purpose of maintaining maintenance logs and inspection reports for ESS?

A. To track the aesthetic condition of the equipment.

B. To support incident investigations and compliance verification.

C. To estimate future market price.

D. To train new staff on unrelated topics.

Maintaining maintenance logs and inspection reports for an ESS creates a reliable history of how the system has been cared for and tested. These records capture what was inspected, when, who performed it, what was found, and what actions were taken to correct issues. The primary purpose is to support incident investigations and compliance verification. If an incident occurs, investigators can review the logs to determine whether the ESS was properly maintained and whether safety features were functioning as required. The records also show that required maintenance intervals and inspections were completed, helping regulatory bodies verify adherence to standards and manufacturer directives. This documentation aids safety planning by confirming the system's readiness for emergencies and provides solid proof for audits and insurance purposes. Aesthetic concerns, market pricing, or unrelated training don't address safety, reliability, or regulatory compliance, so they don't fit the purpose of these records.

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6. Which steps are involved in the commissioning of an ESS?

A. Budget approval, marketing, installation, and retirement.

B. Planning, installation, initial testing, performance verification, documentation, and handover.

C. Design, procurement, installation, and closure.

D. Site selection, zoning, and regulatory waiver.

Commissioning an ESS is the process of verifying that the system, after installation, is ready to operate safely and as designed. The steps in this process flow from planning through handover. Planning establishes the scope, acceptance criteria, safety requirements, and how verification will be conducted. Installation ensures all components are correctly integrated with the controls, electrical, ventilation, and fire protection systems. Initial testing confirms basic operability and safety features such as interlocks, alarms, wiring integrity, and protective devices. Performance verification checks that the ESS delivers the required capabilities under expected loads and conditions, including safety system performance, efficiency, and response to faults. Documentation gathers and preserves drawings, equipment data, calibration records, test results, operating and maintenance manuals, and training materials. Handover transfers responsibility to operations, providing staff training and access to manuals and procedures for safe, ongoing operation and maintenance. Other activities like design, procurement, site selection, or business steps such as budgeting and marketing occur earlier or outside the commissioning process.

7. Which term describes the process of modifying a signal in a way that prepares it for the next stage of processing?

A. The provision of fresh air to a room, building, or other enclosed space, or the removal of stale or contaminated air.

B. The process of modifying a signal in a way that prepares it for the next stage of processing.

C. A set of step-by-step instructions compiled by an organization to help workers carry out routine operations.

D. A systematic approach to managing safety, including organizational structures, accountabilities, policies, and procedures.

Signal conditioning is the process of modifying a signal in a way that prepares it for the next stage of processing. This includes amplifying weak sensor signals to usable levels, filtering out noise, converting the signal to a standard form (such as adjusting voltage levels or converting analog to digital), and ensuring proper impedance matching. By conditioning the signal, the input stays within the range and requirements of the next device or system, leading to more accurate measurements and reliable operation downstream. In a flammable-refrigerant system, sensors like temperature, pressure, or gas detectors can produce small or noisy signals; conditioning them helps the control or data acquisition system interpret readings correctly and respond safely. The other options describe ventilation, standard operating procedures, and a safety-management framework, which are unrelated to signal processing.

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8. Which of the following are considerations for outdoor equipment housing for B28 systems?

A. Weatherproof enclosures, anti-arcing considerations, protected from ignition sources, and proper drainage and ventilation

B. Only Weatherproof enclosures

C. Only anti-arcing considerations

D. Only proper drainage and ventilation

Outdoor housing for B28 systems must address moisture, ignition risk, and proper management of heat and vapors. Weatherproof enclosures protect electrical and control gear from rain, snow, and wind-driven moisture, which is crucial when equipment sits outdoors. Anti-arcing considerations reduce the likelihood that switching operations or faults will produce an electrical arc, which could ignite flammable refrigerant vapors. The housing must be kept free from ignition sources, meaning hot surfaces, sparks, or other potential ignition events are controlled or isolated from the energy-containing equipment. Drainage and ventilation are both needed: drainage prevents water pooling that can cause corrosion and compromise insulation, while ventilation helps dissipate heat and reduces the chance of flammable vapor accumulation inside the enclosure. Together, these elements create a safer, more reliable outdoor enclosure for flammable-refrigerant systems.

9. Battery Module is defined as?

A. A module consisting of a number of cells generally connected in either series or parallel.

B. A device used to vertically store battery modules.

C. An alarm receiver.

D. An approved piece of equipment.

A battery module is defined as a unit that contains multiple cells grouped together to achieve a specific voltage and capacity, typically connected in series to raise voltage or in parallel to increase current/amp-hour capacity. This grouping provides a practical, interchangeable building block for larger battery systems, making assembly, testing, and maintenance more manageable. The other options describe uses or roles rather than what a battery module is: a device for vertically storing modules is about physical storage, an alarm receiver is unrelated to battery construction, and an approved piece of equipment is a status or designation, not the structural definition of a module.

10. Which refrigerant classifications are typically regulated under B28?

A. Mildly flammable only.

B. All refrigerants regardless of flammability.

C. Highly flammable refrigerants (A3), such as propane (R-290) and isobutane (R-600a).

D. Non-flammable refrigerants only.

B28 targets the safety risks associated with highly flammable refrigerants. When a refrigerant is classified as A3, it presents a significant ignition and explosion hazard, so codes require strict controls around the design, installation, and operation of systems using these fluids. Propane (R-290) and isobutane (R-600a) are classic examples of A3 refrigerants, which is why they're described as typically regulated under B28. The emphasis is on managing potential leaks, ensuring adequate ventilation, using explosion-proof electrical components, proper leak detection, and adherence to ignition-source controls. Nonflammable refrigerants (A1) or mildly flammable ones (A2L) generally fall under broader fire and safety or HVAC codes rather than the specific, heightened protections of B28, so they aren't the primary focus of this regulation.

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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://fdnycofb28.examzify.com

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

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