

ELECTROSTATIC DISCHARGE (ESD) MODULE 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.

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. What is the benefit of having a properly grounded ESD workstation?**
 - A. It reduces operator safety
 - B. It prevents failure, injury, and damage
 - C. It increases static generation
 - D. It raises costs
- 2. How should ESDS devices be handled and stored to minimize ESD risk?**
 - A. Keep in ESDS packaging or shielding containers; store in EPA; minimize exposure to charged materials; label and track.
 - B. Store in ordinary boxes.
 - C. Remove all packaging for better access.
 - D. Keep them on bare shelves.
- 3. Which flooring has the same damaging effect to ESDS items as carpeted flooring?**
 - A. Carpet
 - B. Tile
 - C. Wood
 - D. Vinyl
- 4. What is the consequence of not using grounded tools during ESD-sensitive work?**
 - A. Increases risk of unintended discharges and device damage.
 - B. Has no effect.
 - C. Improves precision.
 - D. Removes static charges automatically.
- 5. A _____ monitor provides continuous assurance the wrist strap is working and alarms immediately when a disconnect from the technician to the ground occurs.**
 - A. Ground impedance tester
 - B. Wrist strap tester
 - C. Megohmmeter
 - D. Charge plate monitor

6. Name a common ESD compliance standard used in industry and what it covers.

- A. A: ANSI/ESD S20.20; it provides requirements for environmental humidity.
- B. UL 60950.
- C. ANSI/ESD S20.20; it provides requirements for an ESD control program to protect ESDS devices in manufacturing and handling.
- D. ISO 9001.

7. What is a typical failure mode for devices subjected to ESD?

- A. Latch-up in CMOS
- B. Thermal runaway due to solder joint
- C. Magnetic interference
- D. Mechanical wear

8. How many ESD warning labels are placed on outermost container of packaging containing ESDS items?

- A. 1
- B. 3
- C. 2
- D. 4

9. An ESDS item remains ESDS until either a complete electrostatic shield exists around it or it can be shown by testing that it is protected from static voltages above how many volts?

- A. 12,000
- B. 20,000
- C. 16,000
- D. 4,000

10. After an ESD event, which step specifically looks for damage that may not be immediately visible?

- A. Ground the device
- B. Perform functional testing
- C. Inspect for visible damage
- D. Implement corrective actions to prevent recurrence

Answers

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

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Explanations

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1. What is the benefit of having a properly grounded ESD workstation?

- A. It reduces operator safety
- B. It prevents failure, injury, and damage**
- C. It increases static generation
- D. It raises costs

Grounding a workstation provides a path for static charges to flow to earth, keeping all conductive surfaces and the operator at the same electrical potential. When this is true, any discharge that occurs is low-energy and controlled, so sensitive electronics are protected from damage that can cause immediate failures or latent defects. This protective path also improves safety for the operator by reducing the risk of shocks from static discharges. In the long run, it reduces downtime and repair costs because devices are less likely to suffer damage. It's not about generating more static or increasing costs; grounding actually minimizes harmful discharges and the negative impacts they can have.

2. How should ESDS devices be handled and stored to minimize ESD risk?

- A. Keep in ESDS packaging or shielding containers; store in EPA; minimize exposure to charged materials; label and track.**
- B. Store in ordinary boxes.
- C. Remove all packaging for better access.
- D. Keep them on bare shelves.

The main idea is protecting ESDS devices by keeping them in protective packaging and within an Electrostatic Protected Area so they're not exposed to static charges. ESDS devices are sensitive to even small electrical charges. Keeping them in ESDS packaging or shielding containers provides a physical and dielectric barrier that reduces charge buildup and potential discharge. Storing them in an Electrostatic Protected Area means the environment is designed to control static electricity—grounded work surfaces, properly worn grounding straps, and ESD-safe storage practices—so charges don't accumulate or transfer to the devices. Labeling and tracking ensures each item remains within protections and is handled correctly throughout its life cycle, enabling accountability and proper re-entry into protected conditions after any handling. Storing in ordinary boxes lacks any static protection, so devices can pick up charges during storage or transport. Removing packaging removes the barrier that prevents charge transfer. Keeping ESDS devices on bare shelves exposes them to uncontrolled charging and contact with charged items, increasing the risk of ESD damage.

3. Which flooring has the same damaging effect to ESDS items as carpeted flooring?

- A. Carpet
- B. Tile**
- C. Wood
- D. Vinyl

The main concept is that static damage to ESDS items happens when charges build up on surfaces and then discharge unpredictably. Flooring plays a big role because it affects how charges are generated and whether they can flow away to ground. Nonconductive floors tend to hold and transfer triboelectric charges rather than drain them away, so they can create the same risk of damaging discharges as carpet does. Ceramic tile is typically an insulating surface, so it can accumulate static charge just like carpet when people walk on it or when items are moved across it. Since it doesn't readily provide a path to ground, that charge can discharge into nearby ESDS items, potentially causing damage. That's why tile is considered to have the same damaging potential as carpet in this context. In contrast, floors designed to be dissipative or conductive provide a path for charges to flow to ground, greatly reducing ESD risk.

4. What is the consequence of not using grounded tools during ESD-sensitive work?

- A. Increases risk of unintended discharges and device damage.**
- B. Has no effect.
- C. Improves precision.
- D. Removes static charges automatically.

Providing a safe discharge path for static electricity through grounded tools is essential when working with ESD-sensitive devices. Static charges can build up on you, your tools, and the objects you handle. If there's no grounded path, a sudden discharge can occur directly into a sensitive component, potentially damaging transistors, diodes, or other circuitry, or causing erratic behavior. Grounded tools keep the area near zero volts by continuously draining away charges, which greatly reduces the chance of these damaging discharges. So, the consequence of not using grounded tools is an increased risk of unintended discharges and device damage. Other options don't fit because static charges don't just disappear on their own; without a proper ground path they can accumulate and discharge unpredictably. This isn't about improved precision, and it isn't true that tools will automatically remove static charges without providing a grounding path.

5. A _____ monitor provides continuous assurance the wrist strap is working and alarms immediately when a disconnect from the technician to the ground occurs.

- A. Ground impedance tester
- B. Wrist strap tester
- C. Megohmmeter**
- D. Charge plate monitor

Continuous monitoring of the operator's grounding path is provided by a wrist strap monitor. This device is placed in-line with the wrist strap and ground cord and constantly checks the connection to earth. If the strap becomes disconnected or the path opens, it immediately triggers an alarm so the technician can reconnect before continuing. Other tools serve different purposes: a ground impedance tester checks the impedance of the grounding path but isn't used for real-time monitoring during work; a megohmmeter measures high resistance for periodic insulation checks; a charge plate monitor verifies surface charging, not the strap connection. So the description points to a wrist strap monitor.

6. Name a common ESD compliance standard used in industry and what it covers.

- A. A: ANSI/ESD S20.20; it provides requirements for environmental humidity.
- B. UL 60950.

C. ANSI/ESD S20.20; it provides requirements for an ESD control program to protect ESDS devices in manufacturing and handling.

- D. ISO 9001.

A common approach in industry is to follow a formal ESD control program guided by a widely used standard. ANSI/ESD S20.20 is the standard that provides the requirements for designing, implementing, and maintaining an ESD control program to protect electrostatic discharge sensitive devices during manufacturing and handling. It covers the whole system: creating ESD Protected Areas, establishing grounding and bonding, selecting appropriate materials and equipment, training personnel, and setting up testing, audits, and documentation to verify compliance. This program-level focus helps ensure consistent practices across processes, locations, and suppliers, reducing the risk of ESD damage to ESDS devices. The other options don't fit as an industry-wide ESD compliance standard. UL 60950 is a safety standard for information technology equipment, not specifically about ESD control programs. ISO 9001 is a quality management system standard, not an ESD-specific program. The item mentioning environmental humidity inaccurately describes S20.20's scope, since humidity control is a part of ESD risk management but is not the defining coverage of the standard itself.

7. What is a typical failure mode for devices subjected to ESD?

A. Latch-up in CMOS

- B. Thermal runaway due to solder joint
- C. Magnetic interference
- D. Mechanical wear

ESD delivers a very fast, high-current pulse into a CMOS device. In CMOS, parasitic PNP structures formed by wells and the substrate can be triggered by such a transient, turning into a thyristor that latches on. Once this parasitic latch-up occurs, a low-impedance path between Vdd and ground is created, causing a large current that can rapidly damage the device unless the current is limited or power removed. This latch-up behavior is a classic, well-known failure mode from ESD in CMOS devices, making it the most representative outcome of an ESD event. Magnetic interference isn't a typical direct result of an ESD pulse, and mechanical wear is a gradual, non-transient failure mechanism. Solder-joint heating is a thermal/mechanical issue rather than the immediate electrical latch-up caused by ESD, so it's not the typical ESD failure path.

8. How many ESD warning labels are placed on outermost container of packaging containing ESDS items?

- A. 1
- B. 3
- C. 2
- D. 4

Clear warning labeling on packaging for ESDS is essential so that anyone handling the item knows it requires ESD precautions. Placing two warning labels on the outermost container ensures the warning is visible from different angles during handling and storage, no matter how the box is oriented. This visibility helps prevent mishandling that could expose the contents to static discharge. One label can be missed if the package is turned, and more than two labels is generally unnecessary and can clutter the package. So, two labels on opposite faces is the practical and effective practice.

9. An ESDS item remains ESDS until either a complete electrostatic shield exists around it or it can be shown by testing that it is protected from static voltages above how many volts?

- A. 12,000
- B. 20,000
- C. 16,000**
- D. 4,000

An ESDS item is treated as sensitive until you can prove it can withstand static discharges above a certain voltage. That threshold is 16,000 volts. If testing shows the item remains protected from static voltages higher than 16 kV, it can be considered protected from those ESD events and no longer classified as ESDS under this criterion. This 16 kV limit is a practical, conservative cutoff used in ESD practice because many real static events can reach or exceed tens of kilovolts. The other voltage figures don't align with this standard threshold used to determine when an item stops being ESDS.

10. After an ESD event, which step specifically looks for damage that may not be immediately visible?

- A. Ground the device
- B. Perform functional testing
- C. Inspect for visible damage**
- D. Implement corrective actions to prevent recurrence

After an ESD event, a careful visual inspection is the step that targets signs of damage that might not be obvious at first glance. By looking closely for scorch marks, melted insulation, cracked plastics, bent or damaged pins, and subtle discoloration around components, you can identify physical harm that indicates ESD effects even if the device still seems to operate. Grounding the device is about safe handling and doesn't reveal damage, while functional testing checks whether the device actually works and can uncover latent electrical faults that aren't visible. Implementing corrective actions to prevent recurrence comes after you've assessed and addressed the damage.

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://esdmodule.examzify.com>

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

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