

FUNDAMENTALS OF INDUSTRIAL HYGIENE (IH) PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

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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. In hazard control, which option is considered the last line of defense?**
 - A. Administrative Controls
 - B. Engineering Controls
 - C. PPE (Personal Protective Equipment)
 - D. Behavioral Safeguards
- 2. LC50 refers to the lethal concentration for what percentage of the population?**
 - A. 50 percent
 - B. 25 percent
 - C. 75 percent
 - D. 100 percent
- 3. Takes into consideration any contamination from production of the media**
 - A. Field Blanks (FB)
 - B. Media Blanks (MB)
 - C. Partial Period Consecutive Sampling
 - D. Confined Spaces
- 4. In exposure assessment, which term describes the amount of substance that enters the body?**
 - A. Absorption
 - B. Inhalation
 - C. Ingestion
 - D. Intake
- 5. What is the role of documentation and recordkeeping in an IH program?**
 - A. Documentation is optional and rarely reviewed.
 - B. Documenting procedures is only for external audits.
 - C. Documentation demonstrates compliance, supports audits, tracks exposures, and informs health protection decisions.
 - D. Documentation replaces the need for training.

6. What instruments are commonly used for real-time exposure assessment and what are their limitations?

- A. Real-time instruments include photoionization detectors (PIDs) for VOCs, noise dosimeters for sound, and electrochemical sensors for gases; limitations include non-specificity, drift, and the need for calibration.
- B. Real-time instruments measure only ambient temperature and humidity, with no exposure data.
- C. Real-time instruments provide perfect specificity without calibration or drift.
- D. Real-time instruments require no maintenance or recalibration.

7. Which term describes substances that primarily cause kidney damage?

- A. Hepatotoxin
- B. Cytotoxin
- C. Nephrotoxin
- D. Neurotoxin

8. What is a gravimetric method for dust sampling and when is it used?

- A. Collecting dust on a filter and weighing it to determine mass concentration; used for inhalable or respirable dust.
- B. Measuring dust concentration with optical counters in real time.
- C. Analyzing dust chemical composition by X-ray fluorescence.
- D. Estimating dust mass from air flow rate alone.

9. Which statement correctly contrasts Direct Reading Instruments with Sample Collection Devices?

- A. Direct Reading Instruments provide results only after lab analysis
- B. Sample Collection Devices provide immediate results
- C. Direct Reading Instruments provide immediate results
- D. Both require lab analysis

10. Which sampling approach collects a single sample during an eight-hour shift?

- A. Full Period Consecutive Sampling
- B. Partial Period Single Sampling
- C. Full Period Single Sampling
- D. General Area Sampling

Answers

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

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Explanations

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1. In hazard control, which option is considered the last line of defense?

- A. Administrative Controls
- B. Engineering Controls
- C. PPE (Personal Protective Equipment)**
- D. Behavioral Safeguards

Understanding the hazard control hierarchy helps explain why PPE is the last line of defense. Protective equipment is used after higher-level measures have been applied or judged infeasible, serving as a personal barrier to exposure rather than removing or reducing the hazard at the source. Its effectiveness relies on correct selection, proper fit, consistent use, and maintenance, and it can fail due to improper use or equipment limitations. Because it protects only the individual wearer and not everyone in the area, it is considered a supplemental safeguard rather than the primary means of control. Engineering controls, such as ventilation or enclosures, and administrative controls, like work practices and training, aim to eliminate or minimize the hazard at the source or in the process. These higher-level measures reduce or remove exposure for all workers, which is why they come before PPE in the hierarchy. Behavioral safeguards fall under human factors and training, reinforcing safe practices but not replacing the need for protective equipment when exposures persist. PPE remains essential, but it is the last line of defense because it does not remove the hazard and depends on proper use.

2. LC50 refers to the lethal concentration for what percentage of the population?

- A. 50 percent**
- B. 25 percent
- C. 75 percent
- D. 100 percent

LC50 means the concentration of a substance in air (for inhalation) that would cause death in about half of exposed organisms within a defined time. It comes from dose-response data and serves as a way to compare acute hazards and estimate risk under those conditions. Because it's a statistical estimate, it can vary with species, exposure duration, and other factors, so the LC50 is not a universal threshold for every individual. The key idea is that it represents fifty percent of the population, i.e., half, not a quarter, three quarters, or all of them.

3. Takes into consideration any contamination from production of the media

- A. Field Blanks (FB)
- B. Media Blanks (MB)**
- C. Partial Period Consecutive Sampling
- D. Confined Spaces

Media blanks are used to detect contamination that comes from the production, handling, or composition of the growth media itself. They are prepared in the same way as the actual samples but are not exposed to the sampling environment. If contaminants appear in a media blank, it points to issues with the media or reagents rather than something in the field or in the environment being sampled. This makes media blanks the best choice for accounting for contamination introduced during media production. Field blanks serve a different purpose: they are exposed to the field and help identify contamination from field handling and transport, not from media production. The other options do not specifically address contamination originating from media production.

4. In exposure assessment, which term describes the amount of substance that enters the body?

- A. Absorption
- B. Inhalation
- C. Ingestion
- D. Intake**

In exposure assessment, the term intake describes the total quantity of a chemical that enters the body from all exposure routes. It brings together all ways a substance can get in—through inhalation of vapors, ingestion of contaminated material, and dermal absorption from skin contact—into one measure of what has entered the body. Absorption is the process by which some of what enters actually moves into the bloodstream, which is a subset of the overall entry. Inhalation and ingestion denote specific routes, not the total amount entering. Therefore, the best fit for “the amount of substance that enters the body” is intake. For example, a worker exposed to vapors and also touching contaminated surfaces has an intake that combines both inhaled and dermal/ingested amounts.

5. What is the role of documentation and recordkeeping in an IH program?

- A. Documentation is optional and rarely reviewed.
- B. Documenting procedures is only for external audits.
- C. Documentation demonstrates compliance, supports audits, tracks exposures, and informs health protection decisions.**
- D. Documentation replaces the need for training.

Documentation and recordkeeping are essential in an industrial hygiene program because they provide a traceable, defensible basis for protecting worker health. By maintaining records of exposure monitoring results, calibration and maintenance of equipment, ventilation performance, medical surveillance, training, and implemented controls, the program can demonstrate regulatory compliance, support audits, and show how exposures have changed over time. This evidence base helps to identify when controls are effective or when additional actions are needed, guiding health-protection decisions and justifying resource allocation. It also ensures continuity when staff or leadership change, and supports prompt responses to incidents or regulatory inquiries. Documentation is not optional or rarely reviewed; it's a core part of credible program management and accountability. It isn't only for external audits, and it does not replace the need for proper training.

6. What instruments are commonly used for real-time exposure assessment and what are their limitations?

- A. Real-time instruments include photoionization detectors (PIDs) for VOCs, noise dosimeters for sound, and electrochemical sensors for gases; limitations include non-specificity, drift, and the need for calibration.**
- B. Real-time instruments measure only ambient temperature and humidity, with no exposure data.
- C. Real-time instruments provide perfect specificity without calibration or drift.
- D. Real-time instruments require no maintenance or recalibration.

Real-time exposure assessment relies on portable detectors that provide immediate readings of agents workers are exposed to, allowing monitoring of exposure patterns as work occurs. Photoionization detectors are commonly used for VOCs because they give rapid, on-the-spot estimates of volatile organic compound concentrations. They are broad-range and quick, but they aren't specific to individual compounds, can be affected by humidity and other interferents, and their readings drift as sensors age; regular calibration with appropriate VOC calibration gas helps keep them accurate. Noise dosimeters are used to track workers' sound exposure over time, often reporting cumulative dose or duration at specific levels, which is valuable for ensuring compliance with exposure limits. Their limitations include less detail about frequency content, potential sensitivity to wind and temperature, and the need for careful placement and periodic calibration to maintain accuracy. Electrochemical sensors provide real-time readings for specific gases (such as CO, H₂S, or NO₂) and are relatively inexpensive and compact, but they suffer from cross-sensitivity to other gases, drift with temperature and humidity, aging of cells, and a finite sensor life, all of which require regular calibration and sensor replacement. Taken together, these instruments are powerful for real-time monitoring, but their readings must be interpreted with awareness of specificity, environmental effects, and maintenance needs to avoid misjudging actual exposure.

7. Which term describes substances that primarily cause kidney damage?

- A. Hepatotoxin
- B. Cytotoxin
- C. Nephrotoxin**
- D. Neurotoxin

This term describes substances that primarily cause kidney damage. The kidneys process blood and concentrate wastes, so they're especially susceptible to toxins, and nephrotoxins specifically injure renal structures such as tubular cells or glomeruli, potentially causing acute or chronic kidney injury. In contrast, hepatotoxins damage the liver, neurotoxins affect the nervous system, and cytotoxins attack cells more broadly. Understanding nephrotoxins helps explain why certain exposures raise renal risk and guides protective measures in workplace IH practice.

8. What is a gravimetric method for dust sampling and when is it used?

- A. Collecting dust on a filter and weighing it to determine mass concentration; used for inhalable or respirable dust.
- B. Measuring dust concentration with optical counters in real time.
- C. Analyzing dust chemical composition by X-ray fluorescence.**
- D. Estimating dust mass from air flow rate alone.

Gravimetric dust sampling means collecting airborne particles on a pre-weighed filter while drawing a known volume of air through it over a set period. After sampling, the filter is weighed again under controlled conditions, and the difference in weight represents the mass of dust collected. The dust mass is then divided by the volume of air sampled to obtain the concentration (mg of dust per m³ of air). This method is the go-to when you need an accurate, mass-based exposure measurement for the inhalable or respirable dust fractions, because it directly measures mass rather than inferring it from optical signals or other proxies. It requires careful handling and controlled lab conditions to prevent moisture changes and tare errors, and it is not a real-time method. It's especially useful for regulatory compliance and health risk assessments where the exact dust mass concentration is required, using the appropriate sampler to target the desired size fraction.

9. Which statement correctly contrasts Direct Reading Instruments with Sample Collection Devices?

- A. Direct Reading Instruments provide results only after lab analysis
- B. Sample Collection Devices provide immediate results
- C. Direct Reading Instruments provide immediate results**
- D. Both require lab analysis

Direct Reading Instruments are designed to give measurements in real time right in the field, so you see a reading immediately as the sensor responds. This lets you assess conditions or exposure and take action right away. In contrast, devices that collect a sample (like filters, sorbent tubes, or canisters) are used to gather material over a period or at a specific moment and then send that sample to a laboratory for analysis. The lab work determines the concentration, so you don't get the result until results are back, which means there's a delay. Because of this, the correct statement is that Direct Reading Instruments provide immediate results. The other options misstate where immediacy comes from and imply that lab analysis is needed for direct-reading devices, which isn't the case.

10. Which sampling approach collects a single sample during an eight-hour shift?

- A. Full Period Consecutive Sampling
- B. Partial Period Single Sampling
- C. Full Period Single Sampling**
- D. General Area Sampling

Understanding how sampling duration relates to exposure data is key. Collecting a single sample that covers the entire eight-hour shift means you take one measurement intended to represent the worker's exposure for the whole shift, rather than multiple samples over time or just a portion of the shift. This approach corresponds to sampling the full period with a single sample. It's the best choice here because it explicitly combines both the full-shift duration and a single capture point. If you compare to other methods, taking samples simultaneously for the entire shift would yield multiple data points rather than one; taking a single sample during only part of the shift would miss exposure attributes across the whole period; and sampling the general area focuses on area concentrations rather than the worker's full-shift personal exposure, so it wouldn't be a single-shift personal sample.

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://fundamentalsofih.examzify.com>

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

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