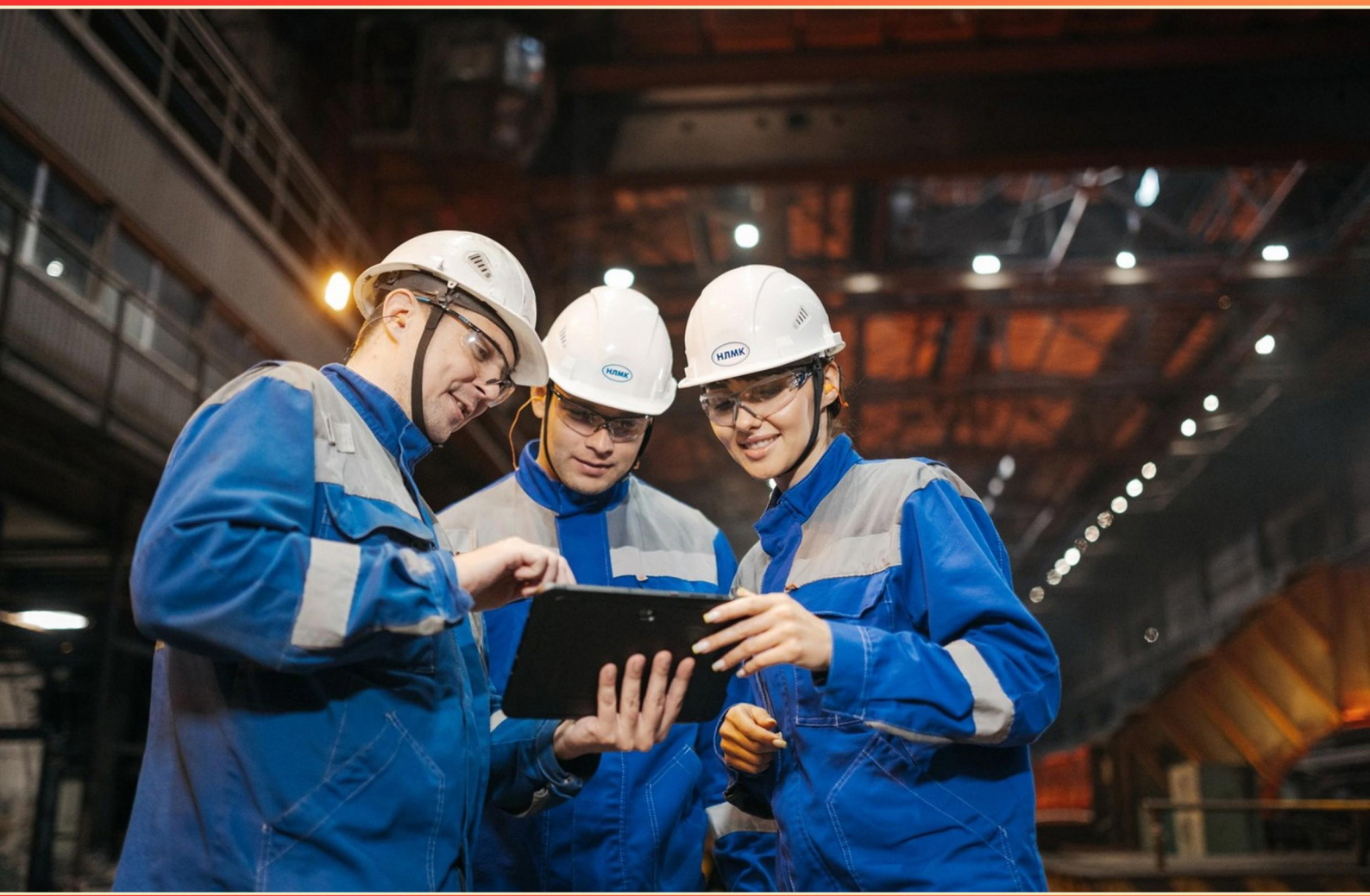
FUNDAMENTALS OF INDUSTRIAL HYGIENE (IH) PRACTICE TEST (SAMPLE)

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. What quantity is related to pitch and tone and measured in Hertz (Hz)?

A. Frequency
B. Noise Dose
C. Decibel
D. Amplitude

2. What is the difference between a sorbent tube and a filter in IH sampling?

A. Sorbent tubes trap particulates for gravimetric mass measurement.
B. Sorbent tubes collect gases and vapors on a sorbent for later analysis.
C. Sorbent tubes are used to measure humidity.
D. Sorbent tubes and filters serve the same purpose.

3. A substance that causes kidney damage is called

A. Hepatotoxin
B. Neurotoxin
C. Nephrotoxin
D. Cardiotoxin

4. Which term describes the amount of light that lands on a surface?

A. Lumen
B. Lux
C. Candela
D. Illuminance

5. The amount of visible light projected onto a surface

A. Lux
B. Candela
C. Illuminance
D. Lumen

6. A concentration lethal to 50% of the population is known as

A. LD50
B. LC50
C. TD50
D. ED50

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7. If no PEL exists for a chemical, which regulatory alternatives may be used?

A. RELs or hazard-based limits

B. No limits are allowed

C. Factory can set any limit

D. Only occupational exposure banding

8. Which parameter is most directly used to quantify the rate of cycles per second in a sound?

A. Noise Dose

B. Amplitude

C. Frequency

D. Sound Pressure Level

9. How do you differentiate between inhalation exposure and dermal exposure in an IH program?

A. Inhalation exposure is measured by skin swabs.

B. Dermal exposure is assessed by monitoring air concentrations in the breathing zone.

C. Inhalation exposure is measured using biological markers alone.

D. Inhalation exposure is measured via air concentrations in the breathing zone; dermal exposure is assessed with skin dosimetry, wipes, and sometimes biological monitoring of absorbed dose.

10. Which is the first step in the DoD Exposure Assessment Model?

A. Define Scope

B. Collect Data

C. Analyze Exposure

D. Report Findings

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Answers

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

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Explanations

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1. What quantity is related to pitch and tone and measured in Hertz (Hz)?

A. Frequency

B. Noise Dose

C. Decibel

D. Amplitude

Pitch and tone come from how fast the sound waves vibrate, which is the frequency. Frequency is measured in hertz (Hz), meaning cycles per second. When the frequency is higher, the pitch sounds higher; when it's lower, the pitch sounds lower. Hz specifically quantifies this rate of vibration, not how loud a sound is or how strong the vibration is. The other terms relate to different aspects: noise dose involves exposure over time, decibels measure sound level (loudness), and amplitude reflects the size of the vibration but not the pitch. So frequency is the quantity that links to pitch and tone and is measured in Hz.

2. What is the difference between a sorbent tube and a filter in IH sampling?

A. Sorbent tubes trap particulates for gravimetric mass measurement.

B. Sorbent tubes collect gases and vapors on a sorbent for later analysis.

C. Sorbent tubes are used to measure humidity.

D. Sorbent tubes and filters serve the same purpose.

Sorbent tubes are designed to trap gas- or vapor-phase contaminants on a solid sorbent inside the tube. As air is drawn through the tube, vapors adhere to the sorbent material, and after sampling the trapped compounds are released (desorbed) for laboratory analysis, typically by GC/MS or similar methods. This makes sorbent tubes ideal for measuring volatile organic compounds and other vapors that exist in the air. Filters, by contrast, capture solid or liquid particles from the air. They are evaluated mainly by gravimetric mass (weighing the filter before and after sampling) to determine particulate concentration, and they can also be analyzed for particulate chemical content. Filters are not used to collect gas-phase molecules for desorption and chemical analysis in the same way sorbent tubes are. So the key distinction is gas- and vapor-phase collection on a sorbent for later analysis versus particulate collection for mass and particulate analysis.

3. A substance that causes kidney damage is called

A. Hepatotoxin

B. Neurotoxin

C. Nephrotoxin

D. Cardiotoxin

In toxicology, organ-specific toxins are named from the organ they damage. "Nephro-" refers to the kidney, so a substance that harms the kidneys is a nephrotoxin. Kidneys are essential for filtering blood, balancing fluids and electrolytes, and eliminating waste; when a nephrotoxin acts, it can impair filtration and disrupt these functions. The other terms point to different organs: a hepatotoxin targets the liver, a neurotoxin affects the nervous system, and a cardiotoxin impacts the heart. Therefore, the substance that causes kidney damage is a nephrotoxin.

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4. Which term describes the amount of light that lands on a surface?

A. Lumen

B. Lux

C. Candela

D. Illuminance

Illuminance describes how much light lands on a surface. It's the luminous flux reaching a specific area, so it tells you how bright that surface will appear. It's measured in lux, with 1 lux equal to 1 lumen per square meter. This is the quantity IH uses to express lighting on work surfaces. Lumen is the total amount of light emitted (or reaching a surface) in all directions, not tied to a specific area. Candela is the luminous intensity in a particular direction, describing how bright the source appears along that direction, not the amount of light on a surface. So when you're asking about the light that actually falls on a surface, illuminance is the correct term. For example, if 100 lumens land on 2 square meters, the illuminance is 50 lux.

5. The amount of visible light projected onto a surface

A. Lux

B. Candela

C. Illuminance

D. Lumen

Understanding how much light falls on a surface is illuminance. This quantity describes the amount of visible light that actually reaches and covers a given area, which is how bright the surface appears to the eye. Illuminance is measured in lux, a unit equal to one lumen per square meter. So illuminance tells you how many lumens are spread over each square meter of the surface ($E = \Phi/A$, where Φ is luminous flux in lumens and A is area in square meters). In contrast, lumen refers to the total amount of light emitted by a source, regardless of how it spreads. Candela measures luminous intensity in a specific direction, not on a surface. Lux is simply the unit used for illuminance. Therefore, the quantity described as the amount of visible light projected onto a surface is illuminance.

6. A concentration lethal to 50% of the population is known as

A. LD50

B. LC50

C. TD50

D. ED50

LC50 refers to the lethal concentration of a substance that kills 50% of a test population over a defined exposure period. This is the appropriate term when the measurement is a concentration in the exposure medium (such as air or water) rather than a dose per body weight. In industrial hygiene and toxicology, LC50 is used for inhalation or aquatic exposures and is typically reported in units like mg/m3 or mg/L. It differs from LD50, which is the lethal dose per body weight (mg/kg); TD50, the dose causing toxic effects (not necessarily death) in 50%; and ED50, the dose producing a defined effect in 50%. Because the question specifies concentration, LC50 is the best fit.

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7. If no PEL exists for a chemical, which regulatory alternatives may be used?

A. RELs or hazard-based limits

B. No limits are allowed

C. Factory can set any limit

D. Only occupational exposure banding

When there isn't a permissible exposure limit for a chemical, you look to other protective benchmarks that guide how you control exposure. The main options used are recommended exposure limits and hazard-based limits. RELs, issued by NIOSH, provide recommended thresholds based on current toxicology and epidemiology. They aren't enforceable like PELs, but they establish a clear target for protecting workers and are widely referenced in safety programs and regulatory guidance. Hazard-based limits take a different approach: they set exposure controls based on the inherent hazards of the chemical (such as carcinogenicity, acute toxicity, or irritation) even when numeric limits aren't specified. This approach ensures protections grounded in the chemical's hazards rather than relying on a fixed concentration. The other choices don't fit because there are always guidance or regulatory references to lean on, you can't just set any limit at will, and occupational exposure banding is a method used to categorize hazard and guide controls—not the only regulatory pathway available.

8. Which parameter is most directly used to quantify the rate of cycles per second in a sound?

A. Noise Dose

B. Amplitude

C. Frequency

D. Sound Pressure Level

Frequency describes how often the sound wave completes a cycle each second, measured in cycles per second (hertz). This directly captures the rate of oscillation, which is why higher frequency sounds have higher pitches. Amplitude, on the other hand, relates to the size of the pressure variation and influences loudness, not how often the cycle repeats. Sound Pressure Level measures loudness on a decibel scale but does not convey the repetition rate. Noise dose is an exposure metric over time, not a property of a single waveform. So the parameter that directly quantifies cycles per second is frequency.

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9. How do you differentiate between inhalation exposure and dermal exposure in an IH program?

A. Inhalation exposure is measured by skin swabs.

B. Dermal exposure is assessed by monitoring air concentrations in the breathing zone.

C. Inhalation exposure is measured using biological markers alone.

D. Inhalation exposure is measured via air concentrations in the breathing zone; dermal exposure is assessed with skin dosimetry, wipes, and sometimes biological monitoring of absorbed dose.

Differentiating exposure pathways in an IH program relies on measuring what happens at the site of contact and uptake. Inhalation exposure is quantified by the concentration of contaminant in the air the worker actually breathes, typically assessed with personal air sampling in the breathing zone. Dermal exposure, by contrast, is evaluated by how much contaminant contacts and is absorbed through the skin, using methods like skin dosimetry, skin wipes to assess surface residues, and, when appropriate, biological monitoring of absorbed dose (such as metabolites or unchanged compound in urine or blood). The other approaches mix up where the contaminant is measured. Skin swabs target surface contamination rather than inhaled air and don't reflect inhalation exposure. Monitoring air concentrations in the breathing zone does not address dermal uptake. Relying on biological markers alone can indicate absorbed dose but doesn't tell you the actual air concentration driving inhalation exposure. The combination described—air concentrations for inhalation and skin-focused measures plus potential biological monitoring for absorbed dose—best captures the distinct pathways.

10. Which is the first step in the DoD Exposure Assessment Model?

A. Define Scope

B. Collect Data

C. Analyze Exposure

D. Report Findings

Defining the scope sets the direction for the entire assessment. It involves clarifying the purpose, which populations and exposures will be considered, the setting and time frame, the contaminants of interest, and the decision criteria that will guide conclusions. With these boundaries and objectives clear, you can determine what data are needed, what level of detail is appropriate, and how success will be measured. This upfront scoping prevents chasing irrelevant data, ensures critical exposure pathways are included, and aligns the rest of the process with the stakeholders' needs. After defining the scope, you would collect data, analyze the exposure, and then report the findings.

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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://fundamentalsofih.examzify.com

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

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