

PMT 103A INDUSTRIAL HYGIENE PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE

<https://pmt103aindustrialhygiene.examzify.com>



Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

SAMPLE

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

SAMPLE

- 1. What are the two main outcomes of an exposure assessment in industrial hygiene?**
 - A. Employee training and shift scheduling.
 - B. Waste disposal and energy use.
 - C. Risk characterization and selection of appropriate controls.
 - D. Equipment maintenance and downtime planning.

- 2. Toxicity is defined as which of the following?**
 - A. An expression of the capacity of a substance to produce injury in a living host
 - B. The rate at which a substance decomposes in the environment
 - C. The color of a toxic chemical
 - D. The environmental persistence of a chemical

- 3. Which of the following is NOT a common strategy to prevent heat-related illness?**
 - A. Hydration
 - B. Acclimatization
 - C. Shaded/rest areas
 - D. Increasing exposure duration

- 4. In industrial hygiene, anticipation refers to ...**
 - A. Proactively identifying hazards before they affect workers.
 - B. Reacting after incidents.
 - C. Training on PPE.
 - D. Auditing compliance.

- 5. Time Weighted Average is defined as**
 - A. The concentration weighted over a 24-hour period.
 - B. The average concentration over an 8-hour work day.
 - C. The maximum concentration during a 40-hour week.
 - D. The peak exposure during a single shift.

- 6. In VOC sorbent sampling, breakthrough occurs when...**
- A. When the sorbent becomes saturated and analyte passes through
 - B. When the sorbent material changes color
 - C. When the instrument detects a spike
 - D. When humidity condenses the sample
- 7. Which organization uses a +5 dB exchange rate for doubling sound pressure levels?**
- A. DoD
 - B. ACGIH
 - C. None
 - D. OSHA
- 8. Which devices are primary methods for measuring noise exposure?**
- A. Sound level meters measuring dBA
 - B. Dosimeters for personal exposure
 - C. Frequency weighting
 - D. All of the above
- 9. Which statement correctly describes LD50 and LC50?**
- A. LD50 is the lethal dose for 50% of test animals; LC50 is the lethal concentration for 50% of test animals
 - B. LC50 is the lethal dose for 50% of test animals; LD50 is the lethal concentration for 50% of test animals
 - C. Both terms describe inhalation exposures only
 - D. Both imply toxic effects at sublethal doses
- 10. Which environmental condition can influence VOC sorbent performance during sampling?**
- A. Altitude
 - B. Time of day
 - C. Temperature and humidity
 - D. Visual lighting

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What are the two main outcomes of an exposure assessment in industrial hygiene?

- A. Employee training and shift scheduling.
- B. Waste disposal and energy use.
- C. Risk characterization and selection of appropriate controls.**
- D. Equipment maintenance and downtime planning.

Exposure assessment aims to quantify how much and how long workers are exposed to a hazard and to interpret what those exposure levels mean for health risk. The two main outcomes are risk characterization and selecting appropriate controls. Risk characterization involves estimating the magnitude, duration, and frequency of exposure for workers, identifying who is most at risk, and considering variability and uncertainties. This helps determine whether the exposure poses a health risk and how serious that risk might be, forming the basis for deciding if actions are needed. Selecting appropriate controls follows from the risk characterization. It means choosing and implementing measures to reduce exposure to acceptable levels, typically starting with engineering controls (like ventilation or enclosure), followed by administrative controls (such as changes in work practices or scheduling), and, when necessary, personal protective equipment. The goal is to achieve exposure levels that are protective of health while balancing feasibility and effectiveness. Other options aren't the primary outcomes of an exposure assessment. Training and shift scheduling may be informed by exposure findings but aren't the core deliverables of the assessment itself. Waste disposal and energy use relate to environmental and sustainability concerns rather than directly to exposure risk. Equipment maintenance and downtime planning affect operations and reliability, and while good maintenance can reduce exposures, they are not the direct two outcomes produced by an exposure assessment.

2. Toxicity is defined as which of the following?

- A. An expression of the capacity of a substance to produce injury in a living host**
- B. The rate at which a substance decomposes in the environment
- C. The color of a toxic chemical
- D. The environmental persistence of a chemical

Toxicity refers to the inherent ability of a substance to cause harm to a living organism. It describes how capable the chemical is of producing injury when a sufficient amount reaches the body through a given route. This concept matters because the actual harm depends on both the substance's potency and the exposure (how much, how long, and by what route). The other statements describe environmental fate or appearance rather than the potential to cause injury: a rate of environmental decomposition, a color, or how long a chemical persists in the environment. In risk assessment, knowing a chemical's toxicity helps compare potencies and, together with exposure, determines the likelihood of adverse health effects.

3. Which of the following is NOT a common strategy to prevent heat-related illness?

- A. Hydration
- B. Acclimatization
- C. Shaded/rest areas
- D. Increasing exposure duration**

Preventing heat-related illness focuses on reducing heat load and supporting the body's cooling and fluid balance. Hydration is essential because keeping fluid levels helps maintain blood volume and enables effective sweating, which cools the body. Acclimatization allows the body to adapt to warmer conditions over several days to weeks, improving sweating efficiency and lowering heart rate during work at a given effort. Providing shaded or cool rest areas reduces radiant heat gain and gives workers a place to recover, helping to lower skin and core temperatures between workloads. Increasing exposure duration, on the other hand, would raise the amount of time the body is exposed to heat, increasing heat load and the risk of heat illness. So the option that is not a common protective strategy is increasing exposure duration.

4. In industrial hygiene, anticipation refers to ...

- A. Proactively identifying hazards before they affect workers.**
- B. Reacting after incidents.
- C. Training on PPE.
- D. Auditing compliance.

In industrial hygiene, anticipation means looking ahead to identify potential hazards before workers are exposed. This proactive mindset involves predicting where exposures could occur, assessing risks before they manifest, and planning controls in advance so problems don't arise. It comes into play whenever a new chemical, process, or task is introduced, so you evaluate possible exposure routes, identify who might be at risk, and decide on engineering controls or administrative measures before production or activities proceed. This differs from reacting after incidents, which is about addressing harm after it happens, and from training on PPE or auditing for compliance, which are reactive or broader management activities rather than the forward-looking identification of hazards. Proactively identifying hazards before they affect workers best captures the essence of anticipation.

5. Time Weighted Average is defined as

- A. The concentration weighted over a 24-hour period.
- B. The average concentration over an 8-hour work day.**
- C. The maximum concentration during a 40-hour week.
- D. The peak exposure during a single shift.

Time Weighted Average represents the average exposure a worker experiences when concentrations vary over time, calculated over a standard work period. In industrial hygiene, that standard period is an eight-hour work shift. By integrating the concentration over the shift and dividing by the shift length, you get the mean exposure for the day. This approach captures fluctuations: high exposures for short times and lower exposures for longer times combine to give an overall average that is used to compare to occupational exposure limits. That's why the correct description is the average concentration over an eight-hour work day. The other ideas describe peak or instantaneous values, or averages over different timeframes (like a full 24 hours or a longer workweek), which do not reflect how TWA is defined and used in workplace exposure assessments.

6. In VOC sorbent sampling, breakthrough occurs when...

- A. When the sorbent becomes saturated and analyte passes through**
- B. When the sorbent material changes color
- C. When the instrument detects a spike
- D. When humidity condenses the sample

Breakthrough occurs when the sorbent becomes saturated and the analyte passes through. In VOC sorbent sampling, air is drawn through a trap that adsorbs the volatile compounds. As the volume of air or the concentration of VOCs increases, the sorbent's adsorption sites fill up; once they're exhausted, additional VOC molecules can no longer be retained and begin to move past the sorbent, potentially being lost or captured only later in the train. This leads to underestimation if sampling continues without accounting for it. Other phenomena like a color change, a spike in the instrument, or condensation due to humidity are not what defines breakthrough themselves.

7. Which organization uses a +5 dB exchange rate for doubling sound pressure levels?

- A. DoD
- B. ACGIH
- C. None
- D. OSHA**

Understanding how exposure time changes with noise level helps explain the +5 dB exchange rate. The exchange rate tells you how the allowed duration shrinks as the sound level goes up. With a +5 dB exchange rate, every 5 dB increase in level cuts the permissible exposure time in half. In OSHA's noise standard, there's a baseline (for example, 90 dBA for 8 hours); increasing the level to 95 dBA reduces the allowable time to 4 hours, then to 2 hours at 100 dBA, and so on. This contrasts with many other organizations that use a 3 dB exchange rate, where each 3 dB rise halves the exposure time. So OSHA is the organization that uses the +5 dB exchange rate.

8. Which devices are primary methods for measuring noise exposure?

- A. Sound level meters measuring dBA
- B. Dosimeters for personal exposure
- C. Frequency weighting
- D. All of the above**

Measuring noise exposure requires both capturing the environmental sound level and tracking a worker's actual exposure over time, with the readings adjusted to reflect how people hear sound. A sound level meter with dBA weighting provides the environmental noise level at a point in time, which is essential for surveys and regular monitoring. A dosimeter worn by a worker records the noise dose over a shift, giving a personal exposure measurement that accounts for duration and fluctuations in noise. Frequency weighting, typically applied as A-weighting, adjusts the signal to match the ear's sensitivity across frequencies, so the reported values correspond more closely to perceived loudness. While frequency weighting isn't a separate device, it's a built-in processing feature of the measurement instruments. Together, these elements form a complete approach to assessing noise exposure, which is why all of these aspects are involved.

9. Which statement correctly describes LD50 and LC50?

- A. LD50 is the lethal dose for 50% of test animals; LC50 is the lethal concentration for 50% of test animals**
- B. LC50 is the lethal dose for 50% of test animals; LD50 is the lethal concentration for 50% of test animals
- C. Both terms describe inhalation exposures only
- D. Both imply toxic effects at sublethal doses

In toxicology, LD50 and LC50 describe acute toxicity endpoints at the 50% mortality level. The difference is that LD50 uses dose (usually milligrams of substance per kilogram of body weight), while LC50 uses concentration (such as milligrams per liter of air) for inhalation or aquatic exposures. The statement that best fits is that LD50 is the lethal dose for 50% of test animals and LC50 is the lethal concentration for 50% of test animals. These metrics focus on lethal outcomes, not sublethal effects, and LD50 can come from oral or dermal routes (not just inhalation), whereas LC50 is tied to the concentration in the exposure medium. For example, an LD50 of 200 mg/kg means half the animals die at that dose, while an LC50 of 5 mg/L means half die at that air concentration during the test period.

10. Which environmental condition can influence VOC sorbent performance during sampling?

- A. Altitude
- B. Time of day
- C. Temperature and humidity**
- D. Visual lighting

Temperature and humidity are the environmental conditions that most directly affect how well a VOC sorbent captures and retains compounds during sampling. The sorbent works by adsorbing VOC molecules onto its surface and into its pores, and this process is driven by temperature. When the ambient temperature rises, the molecules gain more energy and are more likely to desorb from the sorbent, increasing the chance of breakthrough and underestimating the true air concentration. Cooler conditions generally favor adsorption and retention. Humidity introduces water molecules that can compete with VOCs for sorption sites, occupy pore spaces, or cause changes in the sorbent's structure. This competition can reduce the sorption efficiency for many VOCs, alter breakthrough behavior, and complicate recovery during desorption, potentially leading to biased results. Some sorbents are more affected by moisture than others, so humidity monitoring and, if needed, moisture control or using humidity-tolerant sorbents are important for accurate sampling. Altitude, time of day, and visual lighting don't directly influence the sorbent's capacity to capture VOCs in the same way, since they don't alter the fundamental interaction between the sorbent and the target compounds during the sampling process.

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://pmt103aindustrialhygiene.examzify.com>

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

SAMPLE