

Certified Industrial Hygienist Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

This is a sample study guide. To access the full version with hundreds of 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. Don't worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

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 is a distinctive symptom associated with selenium and tellurium exposure?**
 - A. Garlic breath**
 - B. Blackened teeth**
 - C. Yellow skin**
 - D. Loss of appetite**
- 2. What is the permissible exposure factor (PF) for a full face piece air purifying respirator?**
 - A. 10**
 - B. 25**
 - C. 50**
 - D. 1000**
- 3. What component does not factor into the Heat Stress Index calculation?**
 - A. Radiant temperature**
 - B. Core body temperature**
 - C. Air velocity**
 - D. Humidity**
- 4. At what decibel level does OSHA's standard threshold shift (STS) start for frequencies of 2k, 3k, and 4k?**
 - A. 5 dB**
 - B. 10 dB**
 - C. 15 dB**
 - D. 20 dB**
- 5. Which onsite analytical method is used specifically for metal detection?**
 - A. Inductively coupled plasma (ICP)**
 - B. Silica gel tube analysis**
 - C. X-Ray fluorescence (XRF)**
 - D. Gas chromatography (GC)**

6. What geometric concept is the circumference of a duct related to?

- A. Diameter**
- B. Radius**
- C. Volume**
- D. Area**

7. What does a Type 2 error represent in statistical hypothesis testing?

- A. Rejecting the null hypothesis when it is true**
- B. Accepting the null hypothesis when it is false**
- C. Rejecting the alternative hypothesis**
- D. Failing to reject the null hypothesis when it is true**

8. What is the size range for smoke particles?

- A. 0.001 - 1.0 micrometers**
- B. 0.01 - 10 micrometers**
- C. 0.1 - 30 micrometers**
- D. 1 - 5 micrometers**

9. The microwave spectrum typically ranges from?

- A. 300 KHz to 3 MHz**
- B. 300 MHz to 300 GHz**
- C. 3 GHz to 30 GHz**
- D. 300 KHz to 300 MHz**

10. What is the primary wavelength range for UV radiation known to cause optical damage?

- A. 400-800 nm**
- B. 200-400 nm**
- C. 350-700 nm**
- D. 750-1000 nm**

Answers

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

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Explanations

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1. What is a distinctive symptom associated with selenium and tellurium exposure?

- A. Garlic breath**
- B. Blackened teeth**
- C. Yellow skin**
- D. Loss of appetite**

The distinctive symptom associated with selenium and tellurium exposure is garlic breath. This odor is particularly noted for selenium exposure, which can lead to the production of volatile compounds such as dimethylselenide in the body. These compounds are responsible for the garlic-like smell in the breath of those exposed to high levels of selenium. This unique characteristic is a signaling feature and can help identify selenium exposure in a clinical setting. While tellurium exposure can also cause a garlic-like breath odor due to the formation of tellurium compounds, the more common association in occupational health diagnostics tends to highlight selenium. Other symptoms mentioned, such as blackened teeth, yellow skin, and loss of appetite, are not specifically recognized as distinctive indicators of selenium or tellurium exposure and are more general symptoms that could arise from various other health conditions or exposures. Therefore, garlic breath serves as the hallmark symptom linking to selenium and tellurium, making it the correct answer.

2. What is the permissible exposure factor (PF) for a full face piece air purifying respirator?

- A. 10**
- B. 25**
- C. 50**
- D. 1000**

The permissible exposure factor (PF) for a full face piece air purifying respirator is indeed 50. This means that when properly fitted and used by a trained individual, a full face piece air purifying respirator can reduce the concentration of hazardous airborne contaminants by a factor of 50. The PF quantifies the degree to which the respirator protects the wearer, indicating that the exposure level outside the respirator should be no more than 1/50th of the permissible exposure limit (PEL) set for that specific hazard. This factor is based on laboratory evaluations that consider the effectiveness of the respirator in filtering out hazardous substances while also taking into account potential leakage that can occur at the face seal or through the filter. The full face piece design offers an added level of protection because it covers both the mouth and nose, as well as the eyes, which may also be exposed to harmful airborne substances. The values associated with other choices listed are not representative of the PF for a full face piece air purifying respirator, and selecting a PF that is too low would underestimate the level of protection provided, while a value that is too high could mislead users about the respirator's effectiveness. Understanding the permissible exposure factor is crucial for ensuring the

3. What component does not factor into the Heat Stress Index calculation?

- A. Radiant temperature**
- B. Core body temperature**
- C. Air velocity**
- D. Humidity**

The Heat Stress Index (HSI) is a measure used to assess the risk of heat-related illnesses based on environmental conditions. It is a composite index that considers several environmental factors that affect how hot it feels to the body. Core body temperature is not included in the calculation of the Heat Stress Index because the HSI primarily assesses environmental conditions, not physiological responses of the body. The index is calculated based on external factors, such as radiant temperature, air velocity, and humidity—all of which impact how heat is absorbed or dissipated by the body. Radiant temperature accounts for heat from nearby surfaces and sun exposure, air velocity affects heat loss through convection, and humidity levels determine how effectively sweat can evaporate from the skin. Therefore, while core body temperature is critical for understanding an individual's response to heat, it does not factor into the HSI itself, as the index aims to predict heat stress based on environmental conditions rather than internal physiological conditions.

4. At what decibel level does OSHA's standard threshold shift (STS) start for frequencies of 2k, 3k, and 4k?

- A. 5 dB**
- B. 10 dB**
- C. 15 dB**
- D. 20 dB**

The standard threshold shift (STS) as defined by OSHA reflects a measurable change in a worker's hearing ability due to exposure to noise. For the frequencies of 2k, 3k, and 4k Hz, the STS is recognized when there is a shift in hearing levels of 10 dB or more from the baseline audiogram. This threshold is established to help identify the early signs of hearing loss in workers who are exposed to noise, thus facilitating preventive measures to protect their hearing. Establishing the STS at 10 dB serves as a critical marker in occupational health, enabling organizations to implement hearing conservation programs and develop strategies to mitigate further risk of hearing impairment. By monitoring the hearing of employees with this standard, industrial hygienists can ensure that effective controls are put in place whenever significant shifts are detected.

5. Which onsite analytical method is used specifically for metal detection?

- A. Inductively coupled plasma (ICP)**
- B. Silica gel tube analysis**
- C. X-Ray fluorescence (XRF)**
- D. Gas chromatography (GC)**

The correct choice for onsite analytical methods used specifically for metal detection is X-Ray fluorescence (XRF). This technique is particularly effective for identifying and quantifying metals in various materials quickly and non-destructively. XRF works by directing X-rays at a material, causing the elements within it to emit secondary (or fluorescent) X-rays. By measuring the energy and intensity of these emitted X-rays, the method can determine the presence and concentration of metallic elements. XRF is widely used in environmental assessments, hazardous waste management, and industrial hygiene, as it offers rapid results and can be utilized in field settings without sending samples to a laboratory. This makes it an invaluable tool for professionals needing to detect metals in soils, dust, and other materials on-site. In contrast, other methods mentioned, like inductively coupled plasma (ICP), while effective for metal analysis, usually require sample preparation and are primarily suited for laboratory environments. Silica gel tube analysis focuses on gases and vapors, not metals, making it irrelevant for this question. Gas chromatography (GC) is primarily used for separating and analyzing compounds that can vaporize, which does not encompass metal detection either.

6. What geometric concept is the circumference of a duct related to?

- A. Diameter**
- B. Radius**
- C. Volume**
- D. Area**

The circumference of a duct is directly related to its diameter because the circumference is defined as the distance around the edge of a circle, which is mathematically expressed as $C = \pi d$, where C is the circumference and d is the diameter. This relationship highlights how the size of the duct is quantified in terms of its circular dimensions. The diameter, being the straight line passing through the center of the circle and touching its edges, directly influences the circumference. In a practical context, understanding the diameter and its relationship to the circumference is vital for industrial hygienists when assessing duct sizes to ensure adequate airflow and proper ventilation systems. Knowing how to calculate the circumference based on the diameter helps in designing systems that meet specific environmental and occupational health standards.

7. What does a Type 2 error represent in statistical hypothesis testing?

- A. Rejecting the null hypothesis when it is true**
- B. Accepting the null hypothesis when it is false**
- C. Rejecting the alternative hypothesis**
- D. Failing to reject the null hypothesis when it is true**

A Type 2 error, often denoted as beta (β), occurs when a hypothesis test fails to reject the null hypothesis even though the alternative hypothesis is true. This means that the test essentially accepts the null hypothesis despite evidence that suggests it should not be accepted. In practical terms, this could lead to concluding that a treatment or intervention is not effective when it actually is, which has significant implications in fields like industrial hygiene, where failing to identify real risks can endanger worker health. In the context of the other choices, the correct identification of a Type 2 error highlights the importance of understanding statistical errors and their consequences in hypothesis testing. Recognizing this helps professionals gauge the reliability of their findings and ensures they take appropriate measures in their assessments and recommendations.

8. What is the size range for smoke particles?

- A. 0.001 - 1.0 micrometers**
- B. 0.01 - 10 micrometers**
- C. 0.1 - 30 micrometers**
- D. 1 - 5 micrometers**

The size range for smoke particles is predominantly defined as being between 0.01 to 10 micrometers in diameter. This range captures the variety of particulate matter generated by combustion processes, such as those from fires or industrial emissions. Particles within this size range can penetrate deep into the respiratory system when inhaled, posing health risks and leading to respiratory problems. Particles smaller than 0.01 micrometers are often referred to as ultrafine particles, which can also exist in smoke but are less significant in terms of the larger particulate matter that typically constitutes smoke. Conversely, particles larger than 10 micrometers are generally too large to reach the deeper parts of the lungs, as they tend to get trapped in the upper respiratory tract. Understanding the size of smoke particles is critical for industrial hygienists when assessing exposure risks and determining appropriate control measures to protect workers and the public from smoke-related health hazards.

9. The microwave spectrum typically ranges from?

- A. 300 KHz to 3 MHz**
- B. 300 MHz to 300 GHz**
- C. 3 GHz to 30 GHz**
- D. 300 KHz to 300 MHz**

The microwave spectrum is typically understood to encompass frequencies ranging from 300 MHz to 300 GHz. This range is significant within the electromagnetic spectrum and is vital for various applications, including telecommunications, radar, and microwave ovens. The designation of microwaves in this frequency range is due to their ability to penetrate many materials and their suitability for transferring energy. This range includes several subcategories, such as L-band, S-band, C-band, X-band, K-band, and others, which are utilized in different technologies and industries. Understanding that microwaves operate at frequencies above radio waves (which would include the lower ranges) yet below infrared radiation clarifies their position in the electromagnetic spectrum. This recognized range of frequencies is fundamental to fields like industrial hygiene, where knowledge of microwave radiation exposure and safety standards is essential.

10. What is the primary wavelength range for UV radiation known to cause optical damage?

- A. 400-800 nm**
- B. 200-400 nm**
- C. 350-700 nm**
- D. 750-1000 nm**

The primary wavelength range for UV radiation that is known to cause optical damage is between 200 nm and 400 nm. This range includes both UVA and UVB wavelengths, which are particularly harmful to the eyes as they can penetrate various layers of the eye and lead to conditions such as photokeratitis or cataracts. The shorter wavelengths, especially from 200 to about 300 nm, are highly energetic and can cause significant damage to biological tissues, including the eyes. UV radiation in this range is effectively absorbed by the corneal surface, indicating its potential for causing acute damage. In contrast, longer wavelengths (such as those in the 400-800 nm or beyond the 400 nm threshold) are within the visible light spectrum or infrared spectrum and generally do not cause the same degree of optical harm, as they are less effective at penetrating the tissues involved. Therefore, 200-400 nm is critical for understanding the risks associated with UV exposure and the corresponding need for protective measures against optical damage from ultraviolet radiation.

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://industrialhygeinist.examzify.com>

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

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