

AIR AND WATER POLLUTION CONTROL (AWPC) EXAM 1 PRACTICE (SAMPLE)

STUDY GUIDE



Prepare with structure. Pass with confidence



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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. Which of the following is an example of a nonpoint source?**
 - A. Agricultural runoff from fields.
 - B. A smokestack at a power plant.
 - C. Vehicle exhaust from a highway.
 - D. A sewer outfall pipe.

- 2. Which list correctly identifies first-generation pesticides?**
 - A. Sulfur fumigants used by Greeks, hydrogen cyanide on fruit trees, and heavy metals
 - B. DDT and other organochlorines
 - C. Organophosphates and carbamates
 - D. Pyrethroids

- 3. During World War II, which class of pesticides was widely used and includes DDT?**
 - A. Organochlorines
 - B. Organophosphates
 - C. Carbamates
 - D. Pyrethroids

- 4. In some regulatory frameworks, which non-environmental agency body may regulate odors?**
 - A. Zoning and regulatory bodies
 - B. National Weather Service
 - C. FBI
 - D. Occupational Safety and Health Administration

- 5. Which area is PSD applicable to?**
 - A. Attainment or unclassified areas for major new or modified sources.
 - B. Nonattainment areas for all sources.
 - C. Rural areas only.
 - D. Industrial zones only.

6. Who is credited with banning DDTs through a famous book?

- A. John Snow
- B. Rachel Carson
- C. Jane Goodall
- D. Liu Xiaobo

7. What is the difference between PM10 and PM2.5?

- A. PM2.5 is inhalable; PM10 is respirable
- B. PM10 is inhalable; PM2.5 is respirable
- C. They are identical in size
- D. PM10 includes fine particles only

8. Which insecticide is the synthetic version of pyrethrins?

- A. Pyrethrins
- B. Neonicotinoids
- C. Organophosphates
- D. Pyrethroid

9. Which ozone type is protective?

- A. Ground-level ozone
- B. Stratospheric ozone
- C. Tropospheric ozone
- D. None of the above

10. Which statement best identifies the second most common type of pesticide?

- A. Herbicide
- B. Insecticide
- C. Fungicide
- D. Rodenticide

Answers

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

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Explanations

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1. Which of the following is an example of a nonpoint source?

- A. Agricultural runoff from fields.
- B. A smokestack at a power plant.
- C. Vehicle exhaust from a highway.
- D. A sewer outfall pipe.

Nonpoint sources are pollutants that come from many diffuse locations rather than one identifiable discharge. They are carried to water bodies by rainfall, snowmelt, or irrigation across a landscape, so there isn't a single outlet you can point to. Agricultural runoff from fields fits this pattern perfectly because rain or irrigation can wash nutrients, sediments, and pesticides from numerous fields over a wide area into nearby streams and lakes. There's no single pipe or outlet to trace, just widespread contamination from a broad land area. In contrast, a smokestack at a power plant represents a defined outlet from a specific facility, and a sewer outfall pipe is a discrete conduit releasing from a known point. Vehicle exhaust on a highway is more diffuse, coming from many vehicles along a road, but the clearest and most classic example among the options is agricultural runoff.

2. Which list correctly identifies first-generation pesticides?

- A. Sulfur fumigants used by Greeks, hydrogen cyanide on fruit trees, and heavy metals
- B. DDT and other organochlorines
- C. Organophosphates and carbamates
- D. Pyrethroids

First-generation pesticides are the oldest types, typically inorganic compounds or natural products used before synthetic organics were developed. This includes sulfur fumigants and gases like hydrogen cyanide used on crops and trees, as well as heavy metals such as arsenic- or lead-based compounds. This mix is characteristic of pest control practices before modern synthetic chemistry. The other options represent newer generations: DDT and other organochlorines are classic second-generation pesticides, organophosphates and carbamates came later as third-generation formulations, and pyrethroids are among the more recent, fourth-generation options. So the list with sulfur fumigants, hydrogen cyanide, and heavy metals best fits first-generation pesticides.

3. During World War II, which class of pesticides was widely used and includes DDT?

- A. Organochlorines
- B. Organophosphates
- C. Carbamates
- D. Pyrethroids

DDT belongs to organochlorines, a class of chlorine-containing pesticides that are highly persistent in the environment and tend to bioaccumulate in fatty tissues. This stability made it exceptionally effective during World War II for controlling malaria and lice by remaining active for long periods after application. The widespread use during the war reflects how the persistent nature of organochlorines allowed sustained protection in challenging wartime conditions. Later concerns about environmental and ecological impacts led to restrictions on many organochlorines. Other classes—organophosphates and carbamates—are typically more acutely toxic and less persistent, while pyrethroids are synthetic analogs with different modes of action and generally shorter persistence. The pesticide class that includes DDT is organochlorines.

4. In some regulatory frameworks, which non-environmental agency body may regulate odors?

A. Zoning and regulatory bodies

B. National Weather Service

C. FBI

D. Occupational Safety and Health Administration

Odor regulation often comes from land-use controls rather than environmental protection agencies. Local zoning and regulatory bodies oversee where and how activities can operate, and they enforce nuisance and odor-related rules through permits, setback requirements, and odor ordinances. This makes zoning and regulatory bodies the place where odors may be regulated in some frameworks, even though environmental agencies handle many other pollution issues. The other options don't fit as well: the National Weather Service focuses on weather, the FBI on law enforcement, and OSHA on workplace safety—neither typically regulates community odors through general environmental nuisance rules.

5. Which area is PSD applicable to?

A. Attainment or unclassified areas for major new or modified sources.

B. Nonattainment areas for all sources.

C. Rural areas only.

D. Industrial zones only.

PSD focuses on preventing deterioration in places that are currently meeting air quality standards or are not yet classified. It applies when a major new source or a major modification is proposed in areas designated attainment or unclassified for the pollutant in question. This setup ensures that adding emissions doesn't degrade air quality in locations that are already compliant with standards. In nonattainment areas, different NSR rules apply (requiring controls like LAER), so PSD doesn't cover those zones. It isn't limited to rural or industrial areas by geography; the key factor is the area's attainment status. Therefore, PSD applies to attainment or unclassified areas for major new or modified sources.

6. Who is credited with banning DDTs through a famous book?

A. John Snow

B. Rachel Carson

C. Jane Goodall

D. Liu Xiaobo

*Understanding how a landmark book can influence environmental policy. Rachel Carson's *Silent Spring*, published in 1962, exposed how DDT and other pesticides accumulate in the environment, damage wildlife (notably birds), and threaten human health. Her combination of accessible writing and solid science turned the risks of pesticides into a public concern, spurring media attention, public discussion, and political action. That surge of awareness helped pave the regulatory path that led to major restrictions on DDT, including the U.S. ban on agricultural DDT use in 1972. So, she is the figure most closely associated with bringing attention to DDT and driving its regulation through a famous book. The other figures—John Snow, known for cholera investigation; Jane Goodall, renowned for primatology and conservation; Liu Xiaobo, noted for human rights advocacy—are important in their own right but not linked to the DDT ban through a famous publication.*

7. What is the difference between PM10 and PM2.5?

- A. PM2.5 is inhalable; PM10 is respirable
- B. PM10 is inhalable; PM2.5 is respirable**
- C. They are identical in size
- D. PM10 includes fine particles only

Particle size governs where in the respiratory tract a particle can travel. PM10 includes particles with aerodynamic diameter up to about 10 micrometers, which are generally inhalable—they can enter the nose and mouth and settle in the upper, larger airways. PM2.5 includes particles up to about 2.5 micrometers, which are small enough to penetrate deeper into the lungs and reach the lower airways and alveolar region, making them respirable. So the difference is that PM10 describes inhalable particles, while PM2.5 describes respirable particles. Remember, PM2.5 is a subset of PM10, since all PM2.5 particles are also PM10, but not all PM10 particles reach the deep lungs.

8. Which insecticide is the synthetic version of pyrethrins?

- A. Pyrethrins
- B. Neonicotinoids
- C. Organophosphates
- D. Pyrethroid**

Synthetic analogs of the natural insecticide pyrethrins are pyrethroids. Pyrethrins are compounds from chrysanthemum flowers that quickly stun insects but break down in sunlight. To gain longer-lasting control, chemists created pyrethroids, which keep the same general nerve-targeting action as pyrethrins but are more stable in the environment. So the best choice is the pyrethroid, because it is the engineered, synthetic version designed to mimic pyrethrins while improving stability and persistence. The other options represent different insecticide classes or the natural form itself: neonicotinoids act on nicotinic acetylcholine receptors, organophosphates inhibit acetylcholinesterase, and pyrethrins are the natural counterpart to pyrethroids.

9. Which ozone type is protective?

- A. Ground-level ozone
- B. Stratospheric ozone**
- C. Tropospheric ozone
- D. None of the above

Ozone in the stratosphere forms the protective layer that absorbs most of the Sun's ultraviolet radiation, especially UV-B and UV-C, shielding living beings from DNA damage, skin cancer, and other harmful effects. That protective role makes stratospheric ozone the correct answer. The ozone found near the ground or in the lower atmosphere—ground-level ozone or tropospheric ozone—comes from photochemical reactions involving pollutants and sunlight and is harmful to health and ecosystems; it isn't protective.

10. Which statement best identifies the second most common type of pesticide?

- A. Herbicide
- B. Insecticide**
- C. Fungicide
- D. Rodenticide

The main idea is that pesticides are grouped by what they target, and usage patterns typically show herbicides as the most common, with insecticides coming in second. We often see weeds causing the biggest yield losses, so herbicides are used most heavily to keep fields weed-free. Insect pests—mites, aphids, caterpillars, and disease vectors—are also widespread and require many products with different modes of action, so insecticides are the next most commonly used category. Fungicides and rodenticides tend to be used less overall because fungal problems and rodent issues are not as universally pervasive across crops and stored products, leading to lower total usage.

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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://awpc1.examzify.com>

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

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