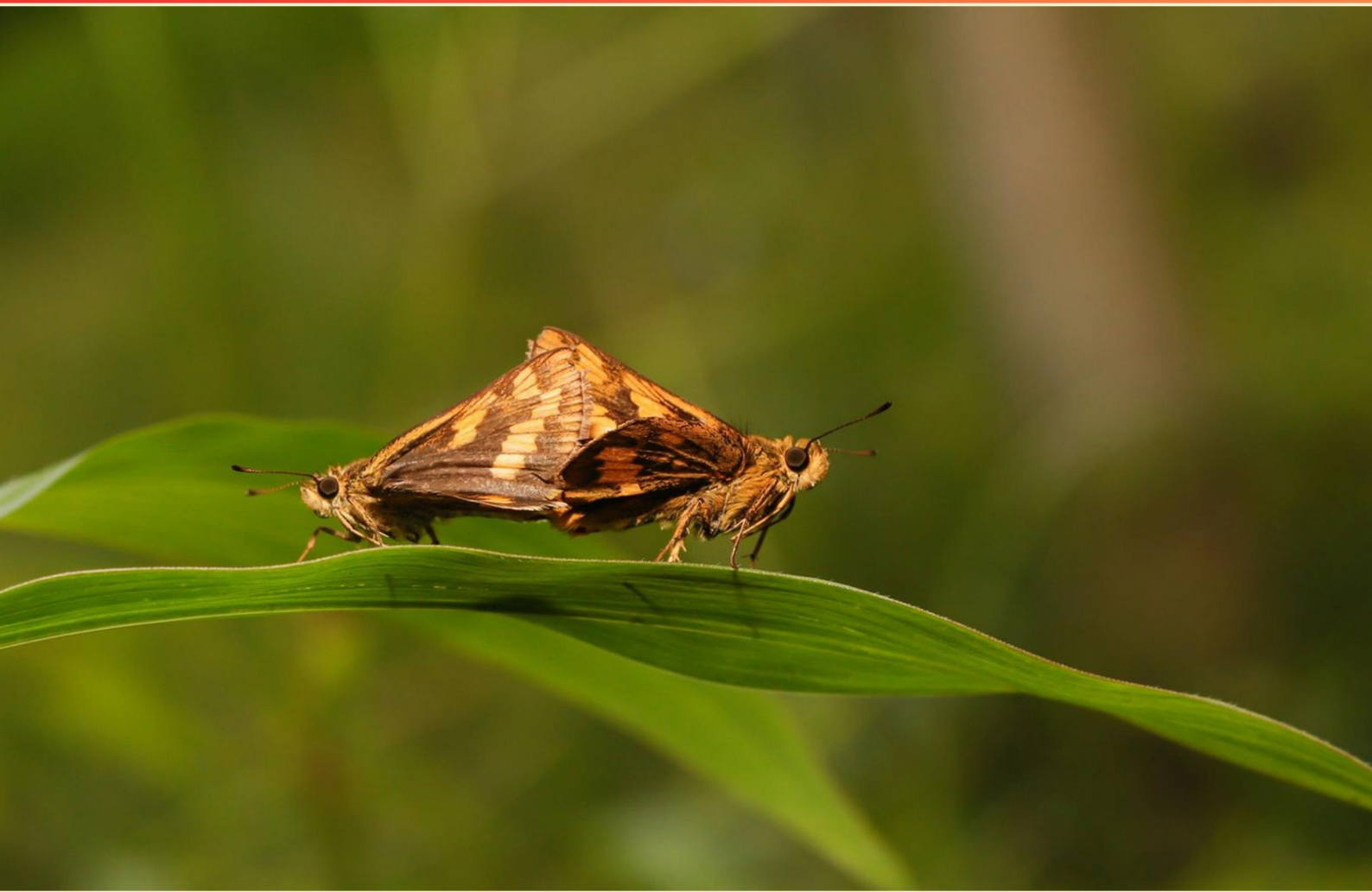


ASSOCIATE CERTIFIED ENTOMOLOGIST (ACE) PRACTICE EXAM (SAMPLE)

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.

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 neurotransmitter is crucial for synaptic transmission in both humans and insects?**
 - A. Dopamine
 - B. Serotonin
 - C. Acetylcholine
 - D. Norepinephrine
- 2. Which of the following best describes a crack and crevice treatment?**
 - A. A large volume of pesticide for general areas
 - B. A limited application into small inaccessible areas
 - C. Spraying wide open spaces
 - D. Using sticky traps for monitoring
- 3. Which pests are commonly attracted by light traps?**
 - A. Ants and termites
 - B. Beetles and spiders
 - C. Moths and flies
 - D. Cockroaches and fleas
- 4. What is a common way adulticides function in pest control?**
 - A. By targeting and killing larval forms of insects
 - B. Through long-lasting effects in the environment
 - C. By killing adult insects directly
 - D. By preventing the growth of insect eggs
- 5. When was DDT banned in the US and what concept emerged shortly after?**
 - A. 1972; Biopesticides
 - B. 1970; Organic Farming
 - C. 1972; Integrated Pest Management (IPM)
 - D. 1975; Chemical Alternatives
- 6. Which agencies administer the Endangered Species Act (ESA)?**
 - A. Federal Bureau of Investigation and Environmental Protection Agency
 - B. U.S. Fish and Wildlife Service and National Marine Fisheries Services
 - C. Department of Transportation and Department of Agriculture
 - D. Occupational Safety and Health Administration and Department of Energy

- 7. How can multiple pest control tactics enhance the effectiveness of an IPM program?**
- A. By completely eradicating all pests immediately
 - B. By managing pest populations at acceptable levels sustainably
 - C. By relying solely on chemical treatments
 - D. By avoiding monitoring pest effects
- 8. What does the term "threshold limit values (TLV)" refer to in the context of SDS?**
- A. Exposure controls
 - B. Stability measures
 - C. Health hazard ratings
 - D. Environmental safety standards
- 9. What does IPM stand for in pest management?**
- A. Integrated Pest Management
 - B. Interconnected Pest Monitoring
 - C. Individual Pest Methodology
 - D. Integrated Plant Management
- 10. What effect do neonicotinoids have on bees?**
- A. They are harmless at low doses
 - B. They cause irritation to bees
 - C. They are very toxic at low doses
 - D. They induce hyperactivity in bees

Answers

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

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Explanations

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1. Which neurotransmitter is crucial for synaptic transmission in both humans and insects?

- A. Dopamine
- B. Serotonin
- C. Acetylcholine**
- D. Norepinephrine

Acetylcholine is the neurotransmitter that plays a crucial role in synaptic transmission in both humans and insects. This substance functions as a key signaling molecule that facilitates communication between nerve cells and muscle cells at the neuromuscular junction, enabling muscle contraction and movement. In the central nervous system, acetylcholine is involved in a wide range of functions, including memory, attention, and learning. In insects, acetylcholine serves a similar purpose in the nervous system, influencing motor control and various behavioral responses. Its widespread role in synaptic transmission across different species emphasizes its fundamental importance in both human and insect biology.

2. Which of the following best describes a crack and crevice treatment?

- A. A large volume of pesticide for general areas
- B. A limited application into small inaccessible areas**
- C. Spraying wide open spaces
- D. Using sticky traps for monitoring

The best description of a crack and crevice treatment is a limited application into small inaccessible areas. This method focuses on applying pesticides precisely into cracks, crevices, and other tight spaces where pests often find harborages. Such targeted approaches minimize pesticide use while effectively addressing pest populations that might go unnoticed in larger areas. This technique is important because many pest species prefer to reside in protected spaces, making broad treatments ineffective for controlling these hidden populations. By directing the application specifically into these areas, pest management professionals can enhance efficacy while adhering to responsible pest management practices. On the other hand, the other options describe approaches that do not closely align with the nature of crack and crevice treatment. For example, using a large volume of pesticide for general areas lacks the precision of focusing on specific harborage sites. Spraying in wide open spaces is too broad and often less effective against pests that are more hidden. Sticky traps are primarily utilized for monitoring pest activity rather than for targeted pest control applications, differentiating them from crack and crevice treatments focused on pesticide delivery.

3. Which pests are commonly attracted by light traps?

- A. Ants and termites
- B. Beetles and spiders
- C. Moths and flies**
- D. Cockroaches and fleas

Light traps are designed to attract various flying insects, with moths and flies being among the most commonly captured. These pests are naturally drawn to light due to their behavior and physiology. Many nocturnal insects, including moths, rely on natural light sources, such as the moon, to navigate during their nighttime activities. When artificial light sources are used in traps, these insects often become lured in, making them easy targets for capture. Flies, particularly those in the families of houseflies and fruit flies, are also strongly attracted to light. These pests are often found in environments where light is present, as they frequently frequent areas with food or organic matter, which can coincide with locations where light traps are set. The attraction of light traps to moths and flies showcases the effectiveness of this pest control method in monitoring or reducing populations of these insects. While other pests like ants, termites, cockroaches, and fleas may be involved in different types of pest management strategies, they do not share the same affinity for light and are not commonly captured by light traps.

4. What is a common way adulticides function in pest control?

- A. By targeting and killing larval forms of insects
- B. Through long-lasting effects in the environment
- C. By killing adult insects directly**
- D. By preventing the growth of insect eggs

Adulticides are an essential category of insecticides specifically designed to target and eliminate adult insects rather than their immature stages, such as eggs or larvae. This is crucial in pest control because adult insects are often the life stage that causes the most damage to crops, spreads diseases, or becomes a nuisance to humans. The mode of action of adulticides typically involves directly affecting adult insects upon contact or ingestion, leading to their immediate death. This direct targeting is particularly effective during the active reproductive phase of the insects' life cycle, which helps to quickly reduce populations and curb infestations. In contrast, other types of insecticides, such as larvicides, focus on the larval stages or developmental forms. Some pest management strategies may involve residual effects that last long in the environment or growth regulators that prevent the maturation of eggs or larvae, but those specifically are not the function of adulticides. Thus, the focus on directly targeting and killing adult insects underlines the effectiveness of adulticides in active pest management scenarios.

5. When was DDT banned in the US and what concept emerged shortly after?

- A. 1972; Biopesticides
- B. 1970; Organic Farming
- C. 1972; Integrated Pest Management (IPM)**
- D. 1975; Chemical Alternatives

DDT, or dichloro-diphenyl-trichloroethane, was banned in the United States in 1972 due to its harmful environmental and health effects, particularly its impact on wildlife and human health. Following this significant policy change, the concept of Integrated Pest Management (IPM) emerged as a holistic approach to pest control. IPM emphasizes the use of a variety of biological, cultural, physical, and chemical tools to manage pest populations in a way that is environmentally sound and economically viable. The development of IPM was largely in response to the need for sustainable agricultural practices that would reduce reliance on chemical pesticides like DDT. IPM strategies often incorporate monitoring pest populations, using resistant plant varieties, and employing biological control agents, while minimizing harm to beneficial organisms and the environment. This concept gained traction in the years following the ban, aligning with broader movements toward environmentally friendly agriculture. Understanding the context of DDT's ban and the rise of IPM highlights the ongoing evolution in pest management practices, shifting from an over-reliance on single chemical solutions to more integrated and sustainable approaches that protect both crops and the ecosystem.

6. Which agencies administer the Endangered Species Act (ESA)?

- A. Federal Bureau of Investigation and Environmental Protection Agency
- B. U.S. Fish and Wildlife Service and National Marine Fisheries Services**
- C. Department of Transportation and Department of Agriculture
- D. Occupational Safety and Health Administration and Department of Energy

The Endangered Species Act (ESA) is primarily administered by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). The USFWS is responsible for the conservation of terrestrial and freshwater species, while the NMFS focuses on marine species and their habitats. This division of responsibilities allows these agencies to effectively manage and protect endangered and threatened species across different ecosystems. The importance of the ESA lies in its role in providing comprehensive protection for species at risk of extinction and their habitats. The collaboration between USFWS and NMFS ensures that both land and sea species receive appropriate attention and conservation efforts, making their joint administration crucial for effective implementation of the act. Other agencies listed do not have specific responsibilities under the ESA. The Federal Bureau of Investigation and Environmental Protection Agency, for instance, focus on law enforcement and environmental regulation rather than species conservation. Similarly, the Department of Transportation and Department of Agriculture deal with transportation infrastructure and agricultural issues, which do not directly pertain to the management of endangered species. Lastly, the Occupational Safety and Health Administration and Department of Energy are involved in workplace safety and energy regulation, with no mandate related to the protection of wildlife or habitats under the ESA.

7. How can multiple pest control tactics enhance the effectiveness of an IPM program?

- A. By completely eradicating all pests immediately
- B. By managing pest populations at acceptable levels sustainably**
- C. By relying solely on chemical treatments
- D. By avoiding monitoring pest effects

Utilizing multiple pest control tactics enhances an Integrated Pest Management (IPM) program by effectively managing pest populations at acceptable levels in a sustainable manner. An IPM program aims to reduce pest populations to a threshold where they do not cause significant harm to crops, structures, or health. This is achieved through a combination of methods, which may include biological control, cultural practices, mechanical controls, and the judicious use of chemical treatments. By integrating various tactics, IPM takes into account the life cycles and behaviors of pests, as well as their natural enemies, which allows for a more holistic approach. It helps maintain ecological balance and minimizes potential resistance to pesticides, all while ensuring that pest levels remain manageable. This comprehensive strategy leads to long-term pest management success without the drawbacks associated with reliance on a single method or the complete eradication of all pests, which can be impractical and environmentally harmful.

8. What does the term "threshold limit values (TLV)" refer to in the context of SDS?

- A. Exposure controls**
- B. Stability measures
- C. Health hazard ratings
- D. Environmental safety standards

Threshold Limit Values (TLVs) represent the level of exposure to a chemical substance that is considered safe for workers over a specific period, typically a workday. These values help in establishing exposure controls, as they provide a guideline for employers and employees to manage and minimize occupational exposure to hazardous substances. In the context of Safety Data Sheets (SDS), TLVs are critical for understanding the potential risks associated with chemicals, assisting in enforcing practices to keep exposure below these limits. This is essential for maintaining a safe work environment and protecting the health of workers. While the other options touch on important topics related to chemical safety and management, they do not specifically address the direct application of TLV values, which primarily focus on measuring and controlling exposure levels in the workplace.

9. What does IPM stand for in pest management?

- A. Integrated Pest Management**
- B. Interconnected Pest Monitoring
- C. Individual Pest Methodology
- D. Integrated Plant Management

In pest management, IPM stands for Integrated Pest Management. This approach is designed to address pest issues through a combination of techniques that are environmentally sensitive, economically viable, and socially responsible. Integrated Pest Management utilizes a range of strategies, including biological control methods, habitat manipulation, cultural practices, and the judicious use of chemical controls when necessary. By integrating multiple management practices, IPM aims to reduce the reliance on any single tactic, which can lead to resistance in pest populations and other unintended consequences. The focus on sustainability and the health of ecosystems distinguishes Integrated Pest Management from more traditional, often chemical-heavy, pest control methods. Other options describe concepts or strategies that do not fully encapsulate the multifaceted approach of IPM. For instance, "Interconnected Pest Monitoring" suggests a focus solely on tracking pest populations without emphasizing management strategies, while "Individual Pest Methodology" implies a more isolated approach to dealing with pests. "Integrated Plant Management" also shifts the focus away from pest control specifically, instead suggesting a broader management of plant health without the integrated perspective specifically aimed at combating pests.

10. What effect do neonicotinoids have on bees?

- A. They are harmless at low doses
- B. They cause irritation to bees
- C. They are very toxic at low doses**
- D. They induce hyperactivity in bees

Neonicotinoids are a class of insecticides that mimic nicotine and are known to interfere with the normal functioning of the nervous system in insects, including bees. Research indicates that even at low doses, neonicotinoids can be highly toxic to bees. They affect the synaptic transmission in the nervous system, leading to detrimental effects such as impaired foraging behavior, reduced reproductive success, and increased mortality. The significant toxicity of neonicotinoids at low concentrations has led to concerns about their impact on bee populations and overall pollinator health. Regulatory bodies and researchers emphasize these risks, advocating for careful use of such insecticides to protect pollinators. Understanding the effects of neonicotinoids is critical for those in pest management and related fields, as they play a pivotal role in the health of ecosystems reliant on pollination. In contrast to the other choices, the assertion that neonicotinoids are harmless at low doses does not reflect current research findings. The claim of causing mere irritation overlooks the broader and more serious toxicological effects they have. Additionally, while some studies may note behavioral changes in bees, such as hyperactivity, the overwhelming consensus is that the primary concern lies in their overall toxicity rather than just inducing hyperactivity.

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://associatecertifieddentomologist-ace.examzify.com>

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

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