

UNIVERSITY OF CENTRAL FLORIDA (UCF) HSC3147 INTRODUCTION TO PHARMACOLOGY 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. What factor does not affect the rate of medication absorption through the skin?**
 - A. The form of the drug
 - B. Size of the drug molecule
 - C. Base of the medication
 - D. Color of the drug

- 2. Which of the following is NOT a common symptom of sexually transmitted diseases (STDs)?**
 - A. Dyspareunia
 - B. Burning or itching on urination
 - C. Fever and malaise
 - D. Congenital malformations

- 3. What is not true about constipation in older adults?**
 - A. Most older adults experience constipation
 - B. Older adults mainly suffer from diarrhea
 - C. Diet has no effect on bowel regulation
 - D. Older adults are at risk for bowel obstruction

- 4. Which condition would most likely require a topical antiviral medication?**
 - A. Psoriasis
 - B. Herpes simplex
 - C. Fungal infection
 - D. Atopic dermatitis

- 5. Which of the following is a possible circumstance leading to a medication error?**
 - A. Incorrect dose
 - B. Error in prescribing/administering/dispensing
 - C. Large amount of food
 - D. All of the above

- 6. Which of the following is NOT a fat-soluble vitamin?**
- A. Vitamin A
 - B. Vitamin D
 - C. Vitamin C
 - D. Vitamin E
- 7. When giving injections, which area should be avoided?**
- A. Areas with thick skin
 - B. Site where restrictive clothing will be placed
 - C. Areas with high fat content
 - D. Sites previously used for injection
- 8. At what temperature should otic medications be administered?**
- A. Frozen
 - B. Cold
 - C. Room temperature
 - D. Heated
- 9. If a patient needs 10 mg of cough syrup and the concentration is 5 mg/5 mL, how many total mL will be needed?**
- A. 5 mL
 - B. 10 mL
 - C. 15 mL
 - D. 20 mL
- 10. Is it advisable to instill drugs directly on the cornea?**
- A. Yes, to enhance absorption
 - B. No, it can cause damage
 - C. Only for specific medications
 - D. Yes, but only in a clinical setting

Answers

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

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Explanations

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1. What factor does not affect the rate of medication absorption through the skin?

- A. The form of the drug
- B. Size of the drug molecule
- C. Base of the medication
- D. Color of the drug**

The rate of medication absorption through the skin is influenced by several factors, and the color of the drug is not one of them. Factors that do impact absorption include the form of the drug (such as a cream, gel, or ointment), the size of the drug molecule (larger molecules typically penetrate the skin more poorly), and the base of the medication (which can affect its permeability through the skin barrier). In contrast, the color of the drug does not play a role in how well a medication is absorbed. While the physical properties of a drug can impact absorption, such as solubility and the presence of active transport mechanisms, color does not affect the pharmacokinetics of the drug. Therefore, it is the factor that does not influence the rate of medication absorption through the skin. Understanding these distinctions is vital for evaluating the effective delivery of transdermal medications and selecting appropriate formulations for patient use.

2. Which of the following is NOT a common symptom of sexually transmitted diseases (STDs)?

- A. Dyspareunia
- B. Burning or itching on urination
- C. Fever and malaise
- D. Congenital malformations**

Congenital malformations are not considered a common symptom of sexually transmitted diseases (STDs). Instead, they refer to birth defects or abnormalities in the structure of a baby that can occur during fetal development. While some STDs can lead to complications in pregnancy or affect the fetus if a pregnant individual is infected, the presence of congenital malformations is a consequence of infection rather than a symptom experienced by the individual with the STD. In contrast, dyspareunia (pain during sexual intercourse), burning or itching during urination, and fever and malaise are direct symptoms that can indicate an active infection. These symptoms often arise from inflammatory responses or infections in the genital or urinary tract commonly associated with STDs. Understanding the distinction between symptoms of an active disease and potential complications or outcomes can be crucial for proper diagnosis and management in the context of sexually transmitted infections.

3. What is not true about constipation in older adults?

- A. Most older adults experience constipation
- B. Older adults mainly suffer from diarrhea**
- C. Diet has no effect on bowel regulation
- D. Older adults are at risk for bowel obstruction

Focusing on the assertion that older adults mainly suffer from diarrhea, this statement is not true because diarrhea is not the predominant gastrointestinal concern for this population. In fact, constipation is far more common among older adults due to various factors such as decreased physical activity, dietary changes, medication use, and underlying health conditions. The understanding of constipation in older adults highlights that many face challenges with bowel regularity, and they often have decreased gastrointestinal motility, which leads to constipation instead of diarrhea. Addressing the other aspects of bowel health, such as the importance of a proper diet, is crucial, as a high-fiber diet can improve bowel regularity and alleviate constipation. Additionally, while older adults do face risks for bowel obstruction, it is more often associated with their tendency towards constipation rather than an increased incidence of diarrhea. Thus, the statement regarding older adults mainly suffering from diarrhea fails to accurately represent the realities of gastrointestinal health in this demographic.

4. Which condition would most likely require a topical antiviral medication?

- A. Psoriasis
- B. Herpes simplex**
- C. Fungal infection
- D. Atopic dermatitis

Topical antiviral medications are specifically designed to treat viral infections, and herpes simplex is a prominent condition that would benefit from such treatment. Herpes simplex virus (HSV) leads to infections that can manifest as cold sores or genital lesions, and using a topical antiviral can help manage symptoms, promote healing, and reduce viral shedding. When applied to the affected area, these medications can inhibit viral replication and alleviate discomfort associated with the lesions. The targeted nature of topical antivirals is particularly effective for localized viral infections like those caused by herpes simplex. In contrast, the other conditions listed are primarily associated with non-viral pathogens or inflammatory processes. Psoriasis is an autoimmune skin condition that requires different management strategies, typically involving topical steroids or vitamin D analogs. Fungal infections like athlete's foot necessitate antifungal treatments rather than antiviral therapies, and atopic dermatitis is an inflammatory skin condition managed with emollients and corticosteroids, not antivirals. Therefore, herpes simplex stands out as the condition that most likely requires a topical antiviral medication.

5. Which of the following is a possible circumstance leading to a medication error?

- A. Incorrect dose
- B. Error in prescribing/administering/dispensing
- C. Large amount of food
- D. All of the above**

A medication error can occur due to several factors, and among these, incorrect dosing, errors in the medication process, and even certain external circumstances can contribute to these mistakes. Incorrect dosing is a significant aspect because giving a patient too much or too little of a medication can lead to ineffective treatment or severe adverse effects. This error can arise from misunderstanding the prescribed dose, miscalculating the dosage based on the patient's specific factors like age or weight, or the use of inappropriate measuring devices. Errors in prescribing, administering, or dispensing a medication encompass a broad range of mistakes that can occur throughout the medication use process. This includes writing an illegible prescription, administering the wrong medication, or a pharmacist dispensing the wrong drug due to confusion over similar drug names. Each of these situations can result in patient harm and a breakdown in the medication management system. The inclusion of large amounts of food as a potential circumstance leading to a medication error highlights the idea that external factors can influence how a drug is absorbed or metabolized. For instance, certain foods can interact with medications, affecting their efficacy or leading to unexpected side effects. If a medication is taken with certain foods or inappropriately timed with meals, this could also contribute to an error in the intended therapeutic outcome.

6. Which of the following is NOT a fat-soluble vitamin?

- A. Vitamin A
- B. Vitamin D
- C. Vitamin C**
- D. Vitamin E

Vitamin C is categorized as a water-soluble vitamin, distinguishing it from fat-soluble vitamins such as A, D, and E. Fat-soluble vitamins, which include vitamins A, D, E, and K, are absorbed along with dietary fat in the intestine and require the presence of dietary lipids for absorption. These vitamins are stored in the body's fatty tissues and liver, allowing them to remain in the body for longer periods compared to water-soluble vitamins, which are not stored and are excreted more readily through urine. Consequently, while vitamins A, D, and E contribute to various critical functions in the body—such as vision, bone health, and antioxidant protection—vitamin C primarily serves as an antioxidant and is crucial for collagen synthesis, but it does not have the same storage capacity or absorption characteristics as the fat-soluble vitamins.

7. When giving injections, which area should be avoided?

- A. Areas with thick skin
- B. Site where restrictive clothing will be placed**
- C. Areas with high fat content
- D. Sites previously used for injection

When considering injection sites, avoiding areas where restrictive clothing will be placed is crucial for ensuring patient comfort and proper absorption of the medication. Restrictive clothing can lead to increased pressure and irritation on the injection site, potentially causing pain or discomfort during the injection process and afterward. Moreover, wearing tight clothing over an injection site might also impede blood flow or limit the effective distribution of the medication, leading to suboptimal results. This consideration is a critical part of the overall approach to injection practice to ensure that the experience is as painless and effective as possible for the patient. Injections should ideally be given in sites that are not only comfortable but where the medication can be effectively absorbed into the body without unnecessary complications or discomfort.

8. At what temperature should otic medications be administered?

- A. Frozen
- B. Cold
- C. Room temperature**
- D. Heated

Otic medications should be administered at room temperature for optimal effectiveness and comfort. When medications are at room temperature, they are less likely to cause discomfort or potential harm to the patient's ear canal, which can be sensitive. Cold medications may lead to dizziness or a decrease in efficacy due to the potential for the medication to not distribute evenly once administered. Conversely, excessively warm medications may also result in irritation. Therefore, using medications at room temperature ensures that the application is both comfortable for the patient and effective in delivering the therapeutic effects intended.

9. If a patient needs 10 mg of cough syrup and the concentration is 5 mg/5 mL, how many total mL will be needed?

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

To determine the total volume of cough syrup needed for a dose of 10 mg, it is essential to understand the concentration of the syrup. The concentration provided is 5 mg per 5 mL, which means that for every 5 mL of syrup, there are 5 mg of the active ingredient. To find out how much syrup is needed for a 10 mg dose, we can relate the required amount (10 mg) to the concentration. Since 5 mg is contained in 5 mL, we can calculate how many mL will provide 10 mg by setting up a proportion based on the concentration: 1. First, note that 10 mg is double the amount in 5 mg. Thus, we will need double the volume of syrup to get the corresponding active ingredient. 2. Since 5 mL contains 5 mg, to obtain 10 mg we will need 10 mL (as 5 mL for 5 mg x 2 equals 10 mL for 10 mg). Therefore, the patient would need a total of 10 mL of cough syrup to obtain the desired 10 mg of the medication. This calculation clearly aligns with the concentration provided, leading to the conclusion that

10. Is it advisable to instill drugs directly on the cornea?

- A. Yes, to enhance absorption
- B. No, it can cause damage**
- C. Only for specific medications
- D. Yes, but only in a clinical setting

Instilling drugs directly on the cornea is generally not advisable due to the potential for damage to the delicate tissues of the eye. The cornea is a sensitive part of the eye that serves as a barrier and a protective layer, and applying substances directly to it can lead to irritation, abrasion, or other harmful effects. Additionally, many medications are designed to be delivered in specific formulations that account for the unique environment of the eye, and direct instillation can circumvent those formulations' intended effects. It's crucial to ensure that any drug application to the eye is done thoughtfully, using appropriate routes and methods to maintain eye health and avoid complications. While certain medications may have specific indications for corneal application (usually under controlled conditions), such instances are exceptions rather than the standard practice, emphasizing the importance of caution in direct application to the cornea.

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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:

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

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