

NPLEX II PHARMACOLOGY PRACTICE TEST (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. Diphenhydramine is used for which of the following actions?**
 - A. Beta-blocker
 - B. Antihistamine; sedative; antiemetic
 - C. Antipyretic
 - D. Diuretic
- 2. Metronidazole is an antiprotozoal effective against which organisms?**
 - A. Malaria
 - B. Candidiasis
 - C. HSV infection
 - D. Amoebiasis and Giardia
- 3. Which drug is an antiplatelet used for prophylaxis of myocardial infarction and is associated with Reye's syndrome in children?**
 - A. Aspirin
 - B. Clopidogrel
 - C. Warfarin
 - D. Amoxicillin
- 4. Trimethoprim-sulfamethoxazole is commonly used for which conditions?**
 - A. UTIs, otitis media, chlamydial infections, Shigella enteritis, Pneumocystis jirovecii pneumonia
 - B. Viral infections such as influenza
 - C. Fungal infections
 - D. Helminth infections
- 5. Which drug carries a risk of Reye's syndrome in children under 12?**
 - A. Acetaminophen
 - B. Amoxicillin
 - C. Clindamycin
 - D. Aspirin

- 6. Bismuth subsalicylate adverse effect: what is a notable side effect?**
- A. Drowsiness
 - B. Black tongue
 - C. Nausea
 - D. Headache
- 7. Hydroxyzine has which pregnancy category in the first trimester?**
- A. C
 - B. X
 - C. B
 - D. D
- 8. Haemophilus influenzae type b vaccine immunizes against which infection?**
- A. Haemophilus influenzae type b immunization
 - B. Polio
 - C. Rotavirus
 - D. Meningococcal disease
- 9. Nitrofurantoin is best described as which type of antibacterial and for what condition is it commonly used?**
- A. Antibacterial, 5-nitrofurantoin
 - B. Antiviral, nucleoside analog
 - C. Antifungal, polyene
 - D. Antibacterial, beta-lactam
- 10. Which antidepressant is a monoamine oxidase inhibitor (MAOI) used for atypical depression?**
- A. Trazodone
 - B. Phenelzine
 - C. Bupropion
 - D. Lithium

Answers

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

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Explanations

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1. Diphenhydramine is used for which of the following actions?

- A. Beta-blocker
- B. Antihistamine; sedative; antiemetic**
- C. Antipyretic
- D. Diuretic

Diphenhydramine works primarily as an H1 histamine receptor antagonist, which makes it an effective antihistamine for allergy symptoms such as itching, sneezing, and runny nose. Its ability to cross into the brain also gives it sedative effects, which is why it's used as a sleep aid in some situations. Additionally, it has anticholinergic properties that contribute to its antiemetic effects, helping prevent nausea and vomiting, particularly with motion sickness. It is not a beta-blocker, not an antipyretic, and not a diuretic, so it won't treat fever, heart-related symptoms, or affect urine production. Hence, combining antihistamine action with sedative and antiemetic effects best fits what diphenhydramine does.

2. Metronidazole is an antiprotozoal effective against which organisms?

- A. Malaria
- B. Candidiasis
- C. HSV infection
- D. Amoebiasis and Giardia**

Metronidazole works best against anaerobic protozoa because it is activated inside anaerobic cells and converts into reactive metabolites that damage DNA. This mechanism makes it particularly effective for infections caused by amoebae and Giardia, such as amoebiasis and giardiasis. It also targets other anaerobic protozoa like Trichomonas, which fits the same principle. It isn't used for malaria, which is caused by Plasmodium and requires different antimalarial drugs; it's not effective against Candida (a fungus) or herpes simplex virus infections (viruses). So amoebiasis and giardiasis are the infections metronidazole is best suited to treat.

3. Which drug is an antiplatelet used for prophylaxis of myocardial infarction and is associated with Reye's syndrome in children?

- A. Aspirin**
- B. Clopidogrel
- C. Warfarin
- D. Amoxicillin

Aspirin works as an antiplatelet by irreversibly inhibiting cyclooxygenase-1 in platelets, which stops the production of thromboxane A2 and prevents platelet aggregation. Because platelets cannot synthesize new COX, this effect lasts for the life of the platelet, making low-dose aspirin a classic choice for preventing myocardial infarction in at risk individuals. A critical safety point is its association with Reye's syndrome in children, particularly if given during a viral illness, which is why aspirin is avoided in pediatric patients. The other options don't fit as well: clopidogrel is an antiplatelet but not the standard MI prophylaxis described here and isn't notably linked to Reye's syndrome; warfarin is an anticoagulant, not an antiplatelet, and amoxicillin is an antibiotic.

4. Trimethoprim-sulfamethoxazole is commonly used for which conditions?

- A. UTIs, otitis media, chlamydial infections, Shigella enteritis, Pneumocystis jirovecii pneumonia
- B. Viral infections such as influenza
- C. Fungal infections
- D. Helminth infections

Trimethoprim-sulfamethoxazole works by blocking two steps in bacterial folate synthesis, giving a synergistic bactericidal effect against a broad range of bacteria. This makes it especially useful for infections commonly caused by susceptible organisms, such as urinary tract infections, otitis media, and certain enteric infections like Shigella. It is also the drug of choice for Pneumocystis jirovecii pneumonia, a key opportunistic infection. It isn't active against viruses, most fungi, or helminths, which is why those categories aren't treated with this medication. Therefore, the listed conditions—UTIs, otitis media, Shigella enteritis, and Pneumocystis jirovecii pneumonia—reflect the typical indications for trimethoprim-sulfamethoxazole.

5. Which drug carries a risk of Reye's syndrome in children under 12?

- A. Acetaminophen
- B. Amoxicillin
- C. Clindamycin
- D. Aspirin

Aspirin carries the risk of Reye's syndrome in children, especially those under 12. Reye's syndrome is a rare but serious condition that can occur after a viral illness when aspirin is given, leading to acute brain swelling and liver dysfunction. This association makes aspirin the drug to avoid for fever or viral infections in this age group. Other options listed don't have this risk profile—acetaminophen is commonly used for pediatric fever and pain, though dosing must be careful, and the antibiotics shown aren't linked to Reye's syndrome.

6. Bismuth subsalicylate adverse effect: what is a notable side effect?

- A. Drowsiness
- B. Black tongue
- C. Nausea
- D. Headache

Bismuth subsalicylate can color mucous surfaces and stools because bismuth reacts with sulfur to form bismuth sulfide. A classic and notable manifestation is a black tongue, which is harmless and typically reversible after stopping the medicine or with time. The other options—drowsiness, nausea, and headache—aren't distinctive features of this drug and aren't the characteristic side effect clinicians highlight.

7. Hydroxyzine has which pregnancy category in the first trimester?

- A. C
- B. X**
- C. B
- D. D

The concept being tested is how pregnancy safety is categorized for drugs during the first trimester, a period when fetal development is most vulnerable. Each category reflects what is known about risks from animal data and human data, and whether the benefits might outweigh those risks. Hydroxyzine is classified as category C. This means that animal studies have shown potential fetal harm and there are no adequate and well-controlled studies in humans, but the drug may still be used if the potential benefits justify the potential risks to the fetus. In the first trimester, this category often leads clinicians to favor safer alternatives when possible, and to weigh carefully whether treatment is necessary. The option that would imply category X would indicate a proven fetal risk that outweighs any benefit and is generally contraindicated in pregnancy, which is not the case for hydroxyzine. The other categories (A, B, D) describe different levels or kinds of risk that do not match hydroxyzine's typical pregnancy data.

8. Haemophilus influenzae type b vaccine immunizes against which infection?

- A. Haemophilus influenzae type b immunization**
- B. Polio
- C. Rotavirus
- D. Meningococcal disease

This question is about what the Hib vaccine protects against. The Haemophilus influenzae type b vaccine is designed to guard against infections caused by Haemophilus influenzae type b, especially invasive diseases in children such as meningitis, epiglottitis, pneumonia, and septicemia. It uses the Hib capsule (polyribosylribitol phosphate) conjugated to a protein carrier to boost the immune response in infancy, producing antibodies that prevent the bacteria from invading the bloodstream and the meninges. Widespread vaccination has dramatically reduced Hib meningitis and other Hib invasive diseases. The other vaccines listed target different pathogens: polio vaccine protects against poliomyelitis, rotavirus vaccine against rotavirus diarrhea, and meningococcal vaccines against Neisseria meningitidis infections.

9. Nitrofurantoin is best described as which type of antibacterial and for what condition is it commonly used?

- A. Antibacterial, 5-nitrofurantoin**
- B. Antiviral, nucleoside analog
- C. Antifungal, polyene
- D. Antibacterial, beta-lactam

Nitrofurantoin is an antibacterial agent in the nitrofurantoin class, and it is used primarily for uncomplicated urinary tract infections, especially cystitis. It works by being reduced inside bacteria to reactive intermediates that damage bacterial DNA, RNA, and proteins, leading to a bactericidal effect concentrated in the urinary tract where the drug reaches high levels. This focused urinary activity explains why it's not used for systemic infections and why it's not an antiviral, antifungal, or beta-lactam.

10. Which antidepressant is a monoamine oxidase inhibitor (MAOI) used for atypical depression?

- A. Trazodone
- B. Phenelzine**
- C. Bupropion
- D. Lithium

Atypical depression historically responds well to monoamine oxidase inhibitors, which raise several brain monoamines by blocking their breakdown. Phenelzine is a nonselective, irreversible MAOI that increases serotonin, norepinephrine, and dopamine in the synapse, helping with the mood reactivity and other features typical of atypical depression. Among the options, this drug is the one that fits the MAOI mechanism. The others are not MAOIs: trazodone is a serotonin antagonist and reuptake inhibitor with sedative effects, bupropion is a dopamine and norepinephrine reuptake inhibitor, and lithium is a mood stabilizer used mainly in bipolar disorder. Keep in mind MAOIs require dietary restrictions and careful drug interaction awareness, which historically limited their use despite their effectiveness for atypical depression.

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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://nplex2pharmacology.examzify.com>

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

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