PHARMACY TECHNICIAN CALCULATIONS 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.

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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!

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Questions

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1. How many micrograms of digoxin are in 0.4 ml of a solution with a concentration of 50 mcg per ml?

A. 10 mcg

B. 20 mcg

C. 30 mcg

D. 40 mcg

2. What is the standard concentration for most intravenous solutions?

A. 0.5% w/v

B. 1% w/v

C. 5% w/v

D. 0.9% w/v

3. What is the formula for determining net profit in a pharmacy?

A. Selling Price - Acquisition Cost

B. Gross Profit + Dispensing Fee

C. Selling Price - Acquisition Cost - Dispensing Fee

D. Selling Price - Dispensing Fee

4. If a pharmacy has a stock of 500 tablets of a medication and a patient requires a 30-day supply with a dose of 2 tablets per day, how many tablets can be dispensed?

A. 60 tablets

B. 300 tablets

C. 500 tablets

D. 700 tablets

5. A patient has an ampule of digoxin injection containing 500 mcg in 2 ml. How much volume is required to deliver a dose of 0.4 mg?

A. 1.6 ml

B. 0.8 ml

C. 2.0 ml

D. 3.2 ml

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6. If a medication is stored at 2 degrees Centigrade, what is the equivalent in degrees Fahrenheit?

A. 35.6 degrees Fahrenheit

B. 36.0 degrees Fahrenheit

C. 33.8 degrees Fahrenheit

D. 39.2 degrees Fahrenheit

7. What is the maximum storage temperature in degrees Celsius for the Oral Polio Virus Vaccine?

A. 5 degrees

B. 8 degrees

C. 10 degrees

D. 20 degrees

8. If a patient requires 1.5 g of a medication available in 300 mg tablets, how many tablets must the patient take?

A. 3 tablets

B. 4 tablets

C. 5 tablets

D. 6 tablets

9. Which calculation is necessary to convert from mg to grams?

A. Divide by 1,000

B. Multiply by 1,000

C. Subtract 1

D. Add 1,000

10. How is a child's dose determined using Clark's Rule?

A. Child's Weight (lb) / Adult Dose

B. Child's Weight (lb) / 150 x Adult Dose

C. Child's Height (in) / 150 x Adult Dose

D. Child's Weight (kg) x Adult Dose

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Answers

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

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Explanations

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1. How many micrograms of digoxin are in 0.4 ml of a solution with a concentration of 50 mcg per ml?

A. 10 mcg

B. 20 mcg

C. 30 mcg

D. 40 mcg

*To determine how many micrograms of digoxin are in 0.4 ml of a solution with a concentration of 50 mcg per ml, you apply the formula for calculating the amount of drug based on concentration and volume. First, recognize that the concentration of the solution is 50 mcg per ml, meaning that each milliliter of solution contains 50 micrograms of digoxin. To find out how much is in 0.4 ml, you multiply the concentration by the volume: Amount of digoxin = Concentration (in mcg/ml) x Volume (in ml) = 50 mcg/ml x 0.4 ml Carrying out the multiplication: 50 mcg/ml * 0.4 ml = 20 mcg Thus, in 0.4 ml of the solution, there are 20 micrograms of digoxin. This matches the correct answer, confirming that the solution's concentration and the volume were applied correctly in the calculation.*

2. What is the standard concentration for most intravenous solutions?

A. 0.5% w/v

B. 1% w/v

C. 5% w/v

D. 0.9% w/v

The standard concentration for most intravenous solutions is 0.9% w/v, which refers to a weight/volume percentage indicating that there are 0.9 grams of solute (commonly sodium chloride) dissolved in 100 milliliters of solution. This concentration is particularly important in maintaining isotonicity with human plasma, making it essential for various intravenous therapies. Isotonic solutions help to prevent fluid shifts that can lead to cellular damage or other complications. Many intravenous solutions, such as normal saline, utilize this concentration to effectively replace fluids and electrolytes in patients without causing harm due to osmotic imbalance. This aspect of 0.9% w/v solutions aligns with standard practice in medical settings, where maintaining appropriate fluid balance is critical for patient care.

3. What is the formula for determining net profit in a pharmacy?

A. Selling Price - Acquisition Cost

B. Gross Profit + Dispensing Fee

C. Selling Price - Acquisition Cost - Dispensing Fee

D. Selling Price - Dispensing Fee

The formula for determining net profit in a pharmacy is correctly identified as selling price minus acquisition cost and minus the dispensing fee. This calculation accurately reflects the total costs associated with selling a prescription or medication. To break it down, the selling price is the amount the pharmacy charges the customer. The acquisition cost is the amount the pharmacy pays to obtain the medication. By subtracting both the acquisition cost and the dispensing fee from the selling price, you arrive at the net profit, which represents the actual earnings that remain after accounting for all expenses directly related to the sale of the product. The dispensing fee covers the professional services and overhead costs related to filling the prescription, making it an essential part of calculating true profitability. Understanding this formula is key in pharmacy operations to ensure that the pharmacy remains financially viable while providing essential services to its customers.

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4. If a pharmacy has a stock of 500 tablets of a medication and a patient requires a 30-day supply with a dose of 2 tablets per day, how many tablets can be dispensed?

A. 60 tablets

B. 300 tablets

C. 500 tablets

D. 700 tablets

To determine how many tablets can be dispensed, first calculate the total amount of medication required for the patient over the 30-day period. The patient requires 2 tablets per day, so over the course of 30 days, the total number of tablets needed is calculated by multiplying the daily dose by the number of days: $$ 2 \text{ tablets/day} \times 30 \text{ days} = 60 \text{ tablets} $$ This number, 60 tablets, represents the amount needed to meet the patient's prescription for the full 30-day supply. However, the pharmacy has a stock of 500 tablets. Since the amount required (60 tablets) is less than the available stock, the pharmacy can indeed dispense the needed 60 tablets without any issues. Thus, while the correct answer suggests that 300 tablets can be dispensed, it is more accurate to note that the total amount required for the patient's 30-day supply is actually 60 tablets. This aligns with their needs and the pharmacy's inventory capacity.

5. A patient has an ampule of digoxin injection containing 500 mcg in 2 ml. How much volume is required to deliver a dose of 0.4 mg?

A. 1.6 ml

B. 0.8 ml

C. 2.0 ml

D. 3.2 ml

To determine the correct volume needed to deliver a dose of 0.4 mg of digoxin from an ampule containing 500 mcg in 2 ml, it is first essential to convert all units to be consistent. Since the given dose is in milligrams and the concentration in micrograms, converting the dose is the first step. 0.4 mg is equivalent to 400 mcg (since 1 mg = 1000 mcg). Now we know that the ampule contains 500 mcg in a total volume of 2 ml. To find out how much volume is necessary to obtain 400 mcg, we can set up a simple ratio: - The concentration of the ampule is 250 mcg/ml (since 500 mcg/2 ml = 250 mcg/ml). - To find the volume required to provide 400 mcg, use the formula: $$ \text{Volume} = \frac{\text{Desired Dose}}{\text{Concentration}} $$ Substituting the known values: $$ \text{Volume} = \frac{400 \text{ mcg}}{250 \text{ mcg/ml}} = 1.6 \text{ ml} $$

6. If a medication is stored at 2 degrees Centigrade, what is the equivalent in degrees Fahrenheit?

A. 35.6 degrees Fahrenheit

B. 36.0 degrees Fahrenheit

C. 33.8 degrees Fahrenheit

D. 39.2 degrees Fahrenheit

To convert degrees Centigrade (Celsius) to degrees Fahrenheit, you can use the formula: $°F = (°C \times 9/5) + 32$ In this case, you need to convert 2 degrees Centigrade to Fahrenheit. Plugging in the value: $°F = (2 \times 9/5) + 32$ $°F = (3.6) + 32$ $°F = 35.6$ This calculation shows that 2 degrees Centigrade is equal to 35.6 degrees Fahrenheit, making it the correct answer. Understanding this conversion is crucial for pharmacy technicians since medications can have specific storage requirements based on temperature, and being able to accurately convert these values ensures compliance with those requirements.

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7. What is the maximum storage temperature in degrees Celsius for the Oral Polio Virus Vaccine?

A. 5 degrees

B. 8 degrees

C. 10 degrees

D. 20 degrees

The maximum storage temperature for the Oral Polio Virus Vaccine is indeed 5 degrees Celsius. Vaccines are sensitive biological products that require specific temperature conditions to maintain their potency and efficacy. For the Oral Polio Virus Vaccine, which is classified as a live attenuated vaccine, storage at low temperatures is essential to ensure that the virus remains viable and effective for immunization. Temperature guidelines for vaccines, including the Oral Polio Virus Vaccine, are established to prevent degradation and maintain their effectiveness. Storing the vaccine at or below 5 degrees Celsius ensures that it remains stable and can induce the desired immune response when administered to patients. Understanding the appropriate temperature for vaccine storage is crucial for pharmacy technicians and healthcare providers, as improper storage can lead to a loss of vaccine effectiveness and subsequently reduce immunization success rates.

8. If a patient requires 1.5 g of a medication available in 300 mg tablets, how many tablets must the patient take?

A. 3 tablets

B. 4 tablets

C. 5 tablets

D. 6 tablets

To determine how many tablets the patient must take to achieve the required dosage of 1.5 g, it is first essential to convert grams to milligrams, since the medication is available in milligram dosages. 1.5 grams is equal to 1500 milligrams (since 1 gram equals 1000 milligrams). Next, to find out how many 300 mg tablets are needed to reach 1500 mg, you would perform the following calculation: \[\text{Number of tablets} = \frac{\text{Total required dosage in mg}}{\text{Dosage per tablet in mg}} = \frac{1500 \text{ mg}}{300 \text{ mg/tablet}} = 5 \text{ tablets} \] Therefore, the patient needs to take 5 tablets to meet the required dose of 1.5 g (1500 mg). This reasoning confirms that the correct answer is 5 tablets, as the calculation accurately reflects the total dosage needed divided by the amount per tablet. If the answer choices had included 5, that would be the right choice based on the calculations performed.

9. Which calculation is necessary to convert from mg to grams?

A. Divide by 1,000

B. Multiply by 1,000

C. Subtract 1

D. Add 1,000

To convert from milligrams (mg) to grams (g), it is essential to understand the relationship between these two units of mass. There are 1,000 milligrams in one gram. Thus, when converting a measurement from milligrams to grams, you need to determine how many grams are represented by a given number of milligrams. By dividing the number of milligrams by 1,000, you effectively scale down the value to reflect that there are 1,000 mg in each gram. For example, if you have 2,000 mg and you divide that by 1,000, you find that it equals 2 grams. This method allows you to accurately convert milligrams into grams, which is crucial for dosage calculations and medication compounding in pharmacy practice. The other calculations mentioned, such as multiplying or adding/subtracting 1,000, would yield incorrect results in this context, as they do not align with the conversion factor of 1,000 milligrams per gram.

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10. How is a child's dose determined using Clark's Rule?

A. Child's Weight (lb) / Adult Dose

B. Child's Weight (lb) / 150 x Adult Dose

C. Child's Height (in) / 150 x Adult Dose

D. Child's Weight (kg) x Adult Dose

Clark's Rule is a calculation used to determine a child's medication dosage based on their weight relative to an adult dosage. The formula states that the child's dose is calculated by taking the child's weight in pounds, dividing it by 150, and then multiplying that result by the adult dose. This calculation allows for a scaling of the adult dosage to make it appropriate and safe for a child's smaller body size. Using this approach takes into account the idea that the average adult weight is considered to be 150 pounds, serving as a baseline for adjustments. As children's weights can vary significantly and are generally much lower than that of an adult, this method helps to accurately estimate a safe and effective dose. This rule provides an essential framework for ensuring that children receive the correct amount of medication without the risks associated with using an adult dose directly. The other options do not align with Clark's Rule methodology, either by referencing inappropriate factors like height or using incorrect units of measurement that could lead to unsafe dosing.

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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://pharmacytechcalc.examzify.com

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

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