Infusion Calculations Practice Test (Sample)

Study Guide

BY EXAMZIFY

Everything you need from our exam experts!

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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

1. **The order is 1 mg/min; the solution concentration is 0.2 mg/mL. What is the rate in mL/min?**

   A. 1 mL/min

   B. 5 mL/min

   C. 3 mL/min

   D. 7 mL/min

2. **The order is for D5RL 200 mL to be infused over 24 hours. The drop factor is 60 gtt/mL. What is the appropriate flow rate? (Nearest whole number)**

   A. 8 gtt/min

   B. 6 gtt/min

   C. 9 gtt/min

   D. 10 gtt/min

3. **One and a half litres of D5% in 1/5 normal saline is to be given over 20 hours. What is the required flow rate in mL per hour?**

   A. 75 mL/h

   B. 60 mL/h

   C. 90 mL/h

   D. 100 mL/h

4. **A medication order is 150 mg. The vial provides 25 mg in 5 mL. How many milliliters should be drawn to administer 150 mg?**

   A. 25 mL

   B. 30 mL

   C. 10 mL

   D. 15 mL

5. **A 350 mL bag is to be infused over 70 minutes. What is the flow rate in mL/h?**

   A. 300 mL/h

   B. 250 mL/h

   C. 350 mL/h

   D. 400 mL/h

6. A pump delivers 60 mL/h; how long to deliver 1800 mL?

A. 15 hours

B. 30 hours

C. 60 hours

D. 20 hours

7. A 564 mL IV bag is to be infused over 6 hours with a drop factor of 60 gtt/mL. What is the drip rate in gtt/min?

A. 100 gtt/min

B. 94 gtt/min

C. 90 gtt/min

D. 95 gtt/min

8. An IV infusion is to deliver 900 mL over 9 hours. What is the infusion rate in mL/hr?

A. 90 mL/hr

B. 100 mL/hr

C. 110 mL/hr

D. 120 mL/hr

9. You have a 1000 mL IV bag to infuse over 24 hours. What is the infusion rate in mL per hour?

A. 40.0 mL/hr

B. 50.0 mL/hr

C. 42.5 mL/hr

D. 41.7 mL/hr

10. An infusion of norepinephrine is ordered at 0.25 mg/hr. The drug concentration is 1 mg in 100 mL. What is the mL/hr to deliver the dose?

A. 10 mL/hr

B. 5 mL/hr

C. 50 mL/hr

D. 25 mL/hr

Answers

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

Explanations

1. The order is 1 mg/min; the solution concentration is 0.2 mg/mL. What is the rate in mL/min?

A. 1 mL/min

B. 5 mL/min

C. 3 mL/min

D. 7 mL/min

To find the rate in mL/min, use the relationship that the mass flow rate equals concentration multiplied by volume flow rate. Here, the drug amount per minute is 1 mg/min, and the solution concentration is 0.2 mg/mL. So the volume delivered per minute is 1 mg/min divided by 0.2 mg/mL, which is (1 ÷ 0.2) mL/min = 5 mL/min. In other words, delivering 5 mL each minute provides 1 mg of drug at that concentration.

2. The order is for D5RL 200 mL to be infused over 24 hours. The drop factor is 60 gtt/mL. What is the appropriate flow rate? (Nearest whole number)

A. 8 gtt/min

B. 6 gtt/min

C. 9 gtt/min

D. 10 gtt/min

Concept: convert the infusion from mL over time to drops per minute using the drop factor. The drop factor tells how many drops make up 1 mL, so you multiply the volume by the drop factor to get total drops, then divide by the total time in minutes. Here, 200 mL over 24 hours with 60 gtt/mL means 200 × 60 = 12,000 drops in 24 hours. 24 hours is 1,440 minutes, so the rate is 12,000 / 1,440 ≈ 8.33 gtt/min. Rounding to the nearest whole drop gives 8 gtt/min.

3. One and a half litres of D5% in 1/5 normal saline is to be given over 20 hours. What is the required flow rate in mL per hour?

A. 75 mL/h

B. 60 mL/h

C. 90 mL/h

D. 100 mL/h

Flow rate equals the total volume to be delivered divided by the time over which it's given. Here, 1.5 litres is the volume, which is 1500 mL, to be given over 20 hours. So the rate is 1500 mL ÷ 20 h = 75 mL per hour. The solution's composition (D5% in NS) doesn't affect the calculation—only the volume and the duration determine the flow rate. A quick check: 75 mL/h × 20 h = 1500 mL, which matches the prescribed volume. Therefore, the required flow rate is 75 mL/h.

4. A medication order is 150 mg. The vial provides 25 mg in 5 mL. How many milliliters should be drawn to administer 150 mg?

A. 25 mL

B. 30 mL

C. 10 mL

D. 15 mL

Converting a labeled concentration to the required dose by using the ratio of mg to mL. The vial has 25 mg in 5 mL, which means the concentration is 25 mg / 5 mL = 5 mg per mL. To deliver 150 mg, divide 150 mg by 5 mg/mL, giving 30 mL. Double-check: 30 mL × 5 mg/mL = 150 mg. So 30 mL should be drawn.

5. A 350 mL bag is to be infused over 70 minutes. What is the flow rate in mL/h?

A. 300 mL/h

B. 250 mL/h

C. 350 mL/h

D. 400 mL/h

Flow rate is the amount of fluid delivered per hour. To get mL per hour, divide the total volume by the infusion time, making sure the time is in hours. Here, 70 minutes equals 70/60 hours, so the rate is 350 mL ÷ (70/60 h) = 350 × 60 ÷ 70 = 300 mL/h. If you infused at other rates, you'd finish in shorter or longer times: for example, 350 mL/h would finish in 60 minutes, and 250 mL/h would take about 84 minutes.

6. A pump delivers 60 mL/h; how long to deliver 1800 mL?

A. 15 hours

B. 30 hours

C. 60 hours

D. 20 hours

Time equals volume divided by rate. If the pump delivers 60 mL per hour, the time to deliver 1800 mL is 1800 ÷ 60 = 30 hours. Check: 60 mL/hour × 30 hours = 1800 mL. The other options would produce different total volumes (15 hours → 900 mL; 20 hours → 1200 mL; 60 hours → 3600 mL). So 30 hours is the correct duration.

7. A 564 mL IV bag is to be infused over 6 hours with a drop factor of 60 gtt/mL. What is the drip rate in gtt/min?

A. 100 gtt/min

B. 94 gtt/min

C. 90 gtt/min

D. 95 gtt/min

The concept being tested is converting a prescribed infusion into a drip rate using the drop factor to translate milliliters into drops per minute. First, find the infusion rate in milliliters per hour: 564 mL over 6 hours equals 564 ÷ 6 = 94 mL/hour. Next, convert that to drops per hour using the drop factor (60 gtt per mL): 94 mL/hour × 60 gtt/mL = 5,640 gtt/hour. Then convert to drops per minute: 5,640 gtt/hour ÷ 60 min/hour = 94 gtt/min. Alternatively, using minutes directly: 6 hours = 360 minutes, so 564 mL × 60 gtt/mL ÷ 360 min = 94 gtt/min. Therefore, the drip rate is 94 gtt/min.

8. An IV infusion is to deliver 900 mL over 9 hours. What is the infusion rate in mL/hr?

A. 90 mL/hr

B. 100 mL/hr

C. 110 mL/hr

D. 120 mL/hr

To determine an IV infusion rate, divide the total volume to be infused by the total time over which it should be delivered. Here, 900 mL over 9 hours gives 900 ÷ 9 = 100 mL per hour. In other words, the pump should deliver 100 mL each hour to reach 900 mL in 9 hours. Quick check: 100 mL/hr × 9 hr = 900 mL. If you tried 90 mL/hr, you'd deliver 810 mL; 110 mL/hr would yield 990 mL; 120 mL/hr would yield 1080 mL—so 100 mL/hr is the rate that matches the requirement.

9. You have a 1000 mL IV bag to infuse over 24 hours. What is the infusion rate in mL per hour?

A. 40.0 mL/hr

B. 50.0 mL/hr

C. 42.5 mL/hr

D. 41.7 mL/hr

Infusion rate is found by dividing the total volume by the time over which it's given. For 1000 mL over 24 hours, you calculate 1000 ÷ 24 = 41.666... mL per hour. Rounding to one decimal place gives 41.7 mL/hr. This is the rate that matches a 24-hour infusion of 1 liter. If you try the other numbers, they would require different infusion times (for example, 40.0 mL/hr would take 25 hours, 50.0 mL/hr would take 20 hours, 42.5 mL/hr would take about 23.5 hours), which isn't the scenario here.

10. An infusion of norepinephrine is ordered at 0.25 mg/hr. The drug concentration is 1 mg in 100 mL. What is the mL/hr to deliver the dose?

A. 10 mL/hr

B. 5 mL/hr

C. 50 mL/hr

D. 25 mL/hr

When you have a drug dose rate in mg per hour and a solution concentration, convert the concentration to mg per milliliter and then find how many milliliters deliver the required milligrams each hour. The solution has 1 mg in 100 mL, which is 0.01 mg per mL. To provide 0.25 mg per hour, you need 0.25 mg ÷ 0.01 mg/mL = 25 mL per hour. So the infusion should run at 25 mL/hr.

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://indusioncalc.examzify.com

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