

CAMLPR CHEMISTRY 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. Which finding is most characteristic of rheumatoid arthritis and involves deposition of small, rounded synovial nodules?**
 - A. Uric acid crystals
 - B. Rice bodies in synovial fluid
 - C. Chondrocyte pellets
 - D. Bacterial clumps

- 2. What is turbidimetry?**
 - A. A measurement of the amount of light to pass through a turbid solution
 - B. A measurement of color intensity
 - C. A measurement of light scattered by a sample
 - D. A measurement of mass-to-charge ratio

- 3. If nephrotic syndrome is suspected, which analyte changes would be expected?**
 - A. TCHOL (inc), TP (dec), TRIG (inc)
 - B. TCHOL (dec), TP (inc), TRIG (dec)
 - C. TCHOL (inc), TP (inc), TRIG (inc)
 - D. TCHOL (dec), TP (dec), TRIG (inc)

- 4. Which analyte is affected by icterus and is a cardiac biomarker?**
 - A. E2
 - B. hsTNI
 - C. PTH
 - D. TESTO

- 5. A sample arrives with GLU 24.8 mmol/L, TP 33 g/L, Na 128 mmol/L, K 2.1 mmol/L. What is this indicative of?**
 - A. Hemolysis in the sample
 - B. IV contamination, reject and recollect
 - C. Hyperglycemia due to contamination
 - D. Inadequate mixing of sample

6. A patient sample results are as follows: LDH 700 U/L, AST 100 U/L, K⁺ 8.2, iCAL 1.60, Fe 40, ALT 66, T4 5pmol/L. What do you report?
- A. Accept results as reported
 - B. Note possible hemolysis
 - C. Repeat ALT
 - D. Reject and recollect, hemolysis present
7. Which urinary sediment element is a waxy cast typically associated with protein positivity?
- A. Hyaline casts
 - B. Waxy casts with POS PRO
 - C. Granular casts with POS PRO
 - D. RBC cast
8. Which chemical reaction is used on urine dipsticks to detect nitrites?
- A. Ninhydrin reaction
 - B. Azodye colorimetric reaction
 - C. Benedict's test
 - D. Diazonium reaction
9. Another patient with FBS 5.1, RBS 6.2, 2h OGTT 7.5. What is this?
- A. Diabetes
 - B. Normal, not diabetes related
 - C. Prediabetes
 - D. Hyperglycemia
10. In synovial fluid analysis, what does a failure of the string test indicate?
- A. Disease
 - B. Normal Fluid
 - C. Increased Viscosity
 - D. Absence of Hyaluronic Acid

Answers

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

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Explanations

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1. Which finding is most characteristic of rheumatoid arthritis and involves deposition of small, rounded synovial nodules?

- A. Uric acid crystals
- B. Rice bodies in synovial fluid**
- C. Chondrocyte pellets
- D. Bacterial clumps

Deposition of small, rounded synovial nodules in rheumatoid arthritis is best explained by the presence of rice bodies. These are tiny, rice-like aggregates found in the synovial fluid or within the synovial lining, composed mainly of fibrin with inflammatory debris. They form in chronic inflammatory environments like rheumatoid arthritis, where ongoing synovitis and fibrin exudation coalesce into discrete nodules. This feature helps distinguish RA from other joint problems: uric acid crystals are associated with gout, bacterial clumps point to septic arthritis, and chondrocyte pellets aren't a characteristic RA finding. Rice bodies reflect the persistent inflammatory activity within the joint and the body's attempt to organize and contain fibrinous material produced during RA.

2. What is turbidimetry?

- A. A measurement of the amount of light to pass through a turbid solution**
- B. A measurement of color intensity
- C. A measurement of light scattered by a sample
- D. A measurement of mass-to-charge ratio

Turbidimetry is about how cloudy a solution is by looking at how much light can pass through it. In a suspension with particles, light is scattered out of the straight path, so less of the incident beam reaches the detector. A turbidimeter measures the transmitted light, and the amount that passes through decreases as turbidity increases. That is why describing turbidimetry as a measurement of the amount of light to pass through a turbid solution is the best fit. By comparison, measuring color intensity relates to colorimetry, measuring light scattered by a sample relates to nephelometry, and measuring mass-to-charge ratio is a mass spectrometry concept.

3. If nephrotic syndrome is suspected, which analyte changes would be expected?

- A. TCHOL (inc), TP (dec), TRIG (inc)**
- B. TCHOL (dec), TP (inc), TRIG (dec)
- C. TCHOL (inc), TP (inc), TRIG (inc)
- D. TCHOL (dec), TP (dec), TRIG (inc)

Nephrotic syndrome causes heavy protein loss in the urine, which lowers circulating proteins—especially albumin—and leads to hypoalbuminemia and a decrease in total serum protein. In response, the liver increases production of lipoproteins to restore oncotic balance and transport lipids, resulting in hyperlipidemia. So the expected pattern is higher cholesterol, higher triglycerides, and lower total protein. This matches the choice with increased TCHOL, decreased TP, and increased TRIG. Other patterns would not fit the underlying changes: lipid levels wouldn't rise if protein loss weren't driving hepatic lipoprotein production, and total protein wouldn't drop if there wasn't substantial protein loss.

4. Which analyte is affected by icterus and is a cardiac biomarker?

- A. E2
- B. hsTNI**
- C. PTH
- D. TESTO

Icterus can interfere with some lab tests because bilirubin changes the color and optical properties of a sample, which can affect measurements that rely on light absorbance or color signals. Among the options, the one that is both a cardiac biomarker and subject to this kind of interference on some platforms is high-sensitivity troponin I. Troponin I is the standout indicator of heart muscle injury and is used to detect myocardial infarction. The other substances—estradiol, parathyroid hormone, and testosterone—are hormones or related peptides and are not cardiac injury markers, so they don't fit the cardiac biomarker part of the prompt.

5. A sample arrives with GLU 24.8 mmol/L, TP 33 g/L, Na 128 mmol/L, K 2.1 mmol/L. What is this indicative of?

- A. Hemolysis in the sample
- B. IV contamination, reject and recollect**
- C. Hyperglycemia due to contamination
- D. Inadequate mixing of sample

When a blood sample is drawn from or near an IV fluid line, the result can be a mix of the patient's blood with the IV solution. If the IV contains dextrose, glucose in the sample can be falsely very high; the same fluid dilutes plasma components, so total protein drops and electrolytes like sodium and potassium can appear low. Here, glucose is markedly elevated while total protein, sodium, and potassium are all decreased, which fits the picture of dilution from IV fluids plus glucose infusate rather than a true patient profile. The correct action is to reject the sample and recollect from a venipuncture away from any IV line, after flushing or stopping the IV as appropriate. (Hemolysis would usually alter potassium and other values in a different pattern and wouldn't explain such a massive spike in glucose with concurrent dilution across other analytes.)

6. A patient sample results are as follows: LDH 700 U/L, AST 100 U/L, K+ 8.2, iCAL 1.60, Fe 40, ALT 66, T4 5pmol/L. What do you report?

- A. Accept results as reported
- B. Note possible hemolysis
- C. Repeat ALT
- D. Reject and recollect, hemolysis present**

Hemolysis in a blood sample causes intracellular components to spill into the plasma, which can spuriously raise several analytes. In this case, the markedly high potassium along with elevated LDH and AST strongly points to red cell rupture rather than true patient physiology. Because these values are susceptible to artifactual interference, you need a recollection to obtain accurate measurements. Rejecting and recollecting, while noting that hemolysis was present, is the safest course. Accepting the results as reported risks acting on misleading data; simply noting possible hemolysis doesn't resolve the unreliability of the full panel; repeating only ALT doesn't fix the other affected parameters.

7. Which urinary sediment element is a waxy cast typically associated with protein positivity?

- A. Hyaline casts
- B. Waxy casts with POS PRO**
- C. Granular casts with POS PRO
- D. RBC cast

Waxy casts are broad, dull, waxy-looking urinary casts that form in long-standing, low-flow tubular conditions. They arise when casts age and degrade as they travel through dilated tubules, giving them a broad, refractile, waxy appearance. This aging process often occurs in the setting of significant protein leakage into the urine, so they're typically seen with protein positivity on urinalysis. In contrast, hyaline casts are colorless and non-waxy, granular casts come from degenerated cellular material, and RBC casts reflect bleeding into the tubules. Therefore, the waxy cast paired with positive protein is the best fit.

8. Which chemical reaction is used on urine dipsticks to detect nitrites?

- A. Ninhydrin reaction
- B. Azodye colorimetric reaction
- C. Benedict's test
- D. Diazonium reaction**

The test on urine dipsticks detects nitrites using a diazonium reaction, a form of the Griess reaction. In urine, bacteria that cause infection often reduce nitrates to nitrites. The nitrite then reacts with an aromatic amine to form a diazonium ion, which quickly couples with another aromatic compound to yield a colored azo dye. This color change on the dipstick signals a positive nitrite result. The key idea is that a diazonium-based coupling produces the visible color for nitrite detection. Ninhydrin targets amino acids, Benedict's test looks for reducing sugars, and the azodye colorimetric approach is a broader method not specific to nitrite detection, so they don't explain the dipstick result as directly as the diazonium reaction.

9. Another patient with FBS 5.1, RBS 6.2, 2h OGTT 7.5. What is this?

- A. Diabetes
- B. Normal, not diabetes related**
- C. Prediabetes
- D. Hyperglycemia

Key idea: use standard glucose thresholds to judge fasting, random, and post-load values. Here, all three tests sit in the normal range, so there's no evidence of diabetes or prediabetes. Fasting glucose of 5.1 mmol/L is within the normal fasting range (normal is typically below about 5.6 mmol/L). Random glucose of 6.2 mmol/L corresponds to roughly 111 mg/dL, which is well below the diabetes threshold and not enough on its own to signal diabetes. The 2-hour glucose after a 75 g oral load is 7.5 mmol/L, about 135 mg/dL; this is under the impaired glucose tolerance cutoff of 7.8 mmol/L (140 mg/dL). Since none of the values reach the thresholds for diabetes or impaired glucose tolerance, the overall interpretation is normal, not diabetes-related.

10. In synovial fluid analysis, what does a failure of the string test indicate?

A. Disease

B. Normal Fluid

C. Increased Viscosity

D. Absence of Hyaluronic Acid

The string test in synovial fluid checks viscosity, which reflects hyaluronic acid content. Normal joint fluid is very viscous and forms a long, cohesive string when drawn between fingers. If the fluid fails to form a long string, viscosity is reduced, which is typical of inflammatory or septic arthritis. This decrease in viscosity signals a disease process rather than normal physiology, due to degradation or depletion of hyaluronic acid in the inflammatory milieu. So a failed string test points to disease. Absence of hyaluronic acid is too absolute a conclusion from this test, and increased viscosity or normal fluid would not produce a failed string.

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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://camlprchemistry.examzify.com>

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

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