

SUCCESS! IN CLINICAL LABORATORY SCIENCE – URINALYSIS AND BODY FLUIDS (UA/BF) PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE**

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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 statement is true about a formed element that may be found in normal alkaline urine?**
 - A. May be found in normal alkaline urine
 - B. Associated with renal pathology
 - C. Characteristic of glomerulonephritis
 - D. Associated with lung pathology
- 2. Which diagnosis is most consistent with the laboratory pattern described (high urine glucose and positive Acetest)?**
 - A. Diabetes mellitus
 - B. Ectopic pregnancy
 - C. Hypoglycemia
 - D. Chronic kidney disease
- 3. Which finding is most specific for chylous ascites?**
 - A. Milky appearance with high triglycerides.
 - B. Clear yellow ascites with low protein.
 - C. Bloody ascites.
 - D. Purulent ascites.
- 4. If a fasting plasma glucose level is 100 mg/dL, what is the expected fasting CSF glucose level?**
 - A. 25
 - B. 50
 - C. 65
 - D. 100
- 5. Red blood cells in urine sediment in a healthy individual are typically within which range?**
 - A. 0–3 RBCs per high-power field.
 - B. 5–15 RBCs per high-power field
 - C. 0–1 RBC per low-power field
 - D. 10–20 RBCs per high-power field

- 6. Mucus and sloughed cells observed in bladder catheterized urine sediment most likely reflect what?**
- A. Dehydration
 - B. Inflammation or instrumentation; may confound interpretation if contamination
 - C. Glomerulonephritis
 - D. Urinary retention
- 7. An increased number of the urinary component described in a given plate is most consistent with which condition?**
- A. Acute glomerulonephritis
 - B. Biliary tract obstruction
 - C. Contamination from vaginal discharge
 - D. Nephrotic syndrome
- 8. Which condition can cause reddish urine color?**
- A. Malignant melanoma
 - B. Multiple myeloma
 - C. Fanconi syndrome
 - D. Muscular dystrophy
- 9. Which crystals appear rhomboid or rosette shapes and are common in acidic urine?**
- A. Uric acid crystals
 - B. Calcium oxalate crystals
 - C. Cystine crystals
 - D. Struvite crystals
- 10. Which color is most significantly affected by bilirubin in a routine urinalysis?**
- A. Bilirubin
 - B. Glucose
 - C. Albumin
 - D. Ketones

Answers

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

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Explanations

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1. Which statement is true about a formed element that may be found in normal alkaline urine?

- A. May be found in normal alkaline urine
- B. Associated with renal pathology
- C. Characteristic of glomerulonephritis
- D. Associated with lung pathology

In urine sediment, not every formed element means disease; the presence of some elements can be a normal or incidental finding depending on the urine's chemistry, such as its pH. The statement that a formed element may be found in normal alkaline urine is true because alkaline conditions can allow certain nonpathologic elements to appear without indicating renal or systemic disease. This means you shouldn't automatically assume pathology based on seeing that element if the patient has no related symptoms and the finding is limited in number. The other statements imply disease associations (renal pathology, glomerulonephritis, or lung pathology) that aren't required for this element to be present in normal alkaline urine.

2. Which diagnosis is most consistent with the laboratory pattern described (high urine glucose and positive Acetest)?

- A. Diabetes mellitus
- B. Ectopic pregnancy
- C. Hypoglycemia
- D. Chronic kidney disease

High urine glucose means the blood glucose level has exceeded the kidney's reabsorptive capacity, causing glucose to spill into the urine. A positive Acetest indicates the presence of ketone bodies in the urine, showing that the body is producing ketones from fat metabolism, usually because insulin is deficient or ineffective. When both glucosuria and ketonuria are present, the most likely scenario is diabetes mellitus with insufficient insulin activity. In such a state, blood glucose rises, leading to glucosuria, and the lack of adequate insulin prompts the body to break down fats, producing ketones that appear in the urine. This pattern aligns most closely with diabetic hyperglycemia, and can be seen in states like diabetic ketoacidosis. The other conditions don't typically produce this combination. Ectopic pregnancy doesn't cause glucosuria and ketonuria as a characteristic pattern. Hypoglycemia involves low blood glucose and isn't associated with glucosuria unless extreme hyperglycemia occurs elsewhere, which is not the usual presentation. Chronic kidney disease can cause glycosuria if proximal tubule reabsorption is impaired, but it's not accompanied by a reliable ketone reaction on Acetest. So, the finding of high urine glucose with a positive Acetest most strongly points to diabetes mellitus.

3. Which finding is most specific for chylous ascites?

- A. Milky appearance with high triglycerides.
- B. Clear yellow ascites with low protein.
- C. Bloody ascites.
- D. Purulent ascites.

Chylous ascites is identified by lipid-rich lymph leaking into the peritoneal cavity, which makes the fluid look milky and contain high triglycerides. When ascitic fluid is milky and its triglyceride content is above about 200 mg/dL (often with chylomicrons present), this combination is highly specific for chyle leakage into the abdomen. Other types of ascites have different appearances and compositions: a clear yellow fluid with low protein suggests a transudate from things like portal hypertension, bloody ascites points to bleeding or malignancy, and purulent ascites indicates infection. So the milky appearance paired with high triglycerides directly reflects chyle in the abdomen, making it the most specific finding for chylous ascites.

4. If a fasting plasma glucose level is 100 mg/dL, what is the expected fasting CSF glucose level?

- A. 25
- B. 50
- C. 65**
- D. 100

CSF glucose is normally about two-thirds of the plasma glucose level because glucose diffuses into the CSF and is consumed by brain tissue, so the CSF concentration sits below plasma. With a fasting plasma glucose of 100 mg/dL, the expected fasting CSF glucose is around 65 mg/dL (roughly 60–70 mg/dL). The other numbers are too high or too low compared with the typical CSF/plasma ratio.

5. Red blood cells in urine sediment in a healthy individual are typically within which range?

- A. 0–3 RBCs per high-power field.**
- B. 5–15 RBCs per high-power field
- C. 0–1 RBC per low-power field
- D. 10–20 RBCs per high-power field

The main idea is understanding what levels of red blood cells in urine sediment are considered normal in a healthy person. In a healthy individual, only a small number of red blood cells may be seen due to normal shedding or very minor contamination during collection. When you count cells under the microscope, the standard reference range is up to three red blood cells per high-power field. Seeing zero to three RBCs in each high-power field is generally considered normal and does not indicate disease. Counts higher than this suggest microscopic hematuria and warrant further evaluation for potential urinary or renal issues. High-power field counting is used because it provides the magnification needed to reliably detect and quantify small numbers of cells; counting in a low-power field is less precise for this purpose.

6. Mucus and sloughed cells observed in bladder catheterized urine sediment most likely reflect what?

- A. Dehydration
- B. Inflammation or instrumentation; may confound interpretation if contamination**
- C. Glomerulonephritis
- D. Urinary retention

Mucus and sloughed cells in bladder catheterized urine sediment point to irritation of the urinary tract, usually from inflammation or the catheter itself. The catheter can irritate the bladder mucosa, prompting mucus production and shedding of urothelial cells, and samples can also pick up mucous and cells from surrounding tissues, which can confound interpretation if contamination is present. This pattern isn't specific to dehydration, glomerulonephritis, or urinary retention. Dehydration concentrates urine but doesn't inherently cause mucous production or epithelial sloughing; glomerulonephritis would typically show glomerular-origin findings such as dysmorphic red cells or proteinuria rather than just mucus and sloughed cells; urinary retention is a functional issue with abnormal storage/emptying, not a mucosal response.

7. An increased number of the urinary component described in a given plate is most consistent with which condition?

- A. Acute glomerulonephritis**
- B. Biliary tract obstruction
- C. Contamination from vaginal discharge
- D. Nephrotic syndrome

The key idea is that an increase in red blood cells in the urine (hematuria) points to bleeding from the kidneys themselves, which is typical of glomerular injury. In acute glomerulonephritis, inflammation damages the glomerular capillary walls, allowing red blood cells to leak into the filtrate. On a urine sediment plate this shows up as many red blood cells, and sometimes red cell casts, indicating that the source of bleeding is the glomeruli rather than the lower urinary tract. That pattern fits acute glomerulonephritis best. Biliary tract obstruction would not primarily cause hematuria; urine might appear dark due to bile pigments, but RBCs wouldn't be the defining finding. Contamination from vaginal discharge would bring in squamous epithelial cells and bacteria rather than a predominance of red blood cells. Nephrotic syndrome centers on heavy proteinuria and lipiduria, with oval fat bodies seen in sediment, rather than a primary increase in red cells.

8. Which condition can cause reddish urine color?

- A. Malignant melanoma
- B. Multiple myeloma
- C. Fanconi syndrome
- D. Muscular dystrophy**

Reddish urine color is most often due to myoglobin in the urine from muscle breakdown (myoglobinuria). In muscular dystrophy, ongoing muscle degeneration can release myoglobin into the bloodstream and then into the urine, giving it a reddish or tea-colored appearance. This pigment-related change in urine color is a classic sign of pigmenturia from muscle injury, which is why muscular dystrophy best explains the finding. Malignant melanoma can produce dark urine from pigment like melanin in some cases, but that's not the typical cause of a reddish hue. Fanconi syndrome mainly affects tubular reabsorption and does not cause pigmenturia. Multiple myeloma affects urine via light chains and related changes rather than a distinctive reddish color.

9. Which crystals appear rhomboid or rosette shapes and are common in acidic urine?

- A. Uric acid crystals**
- B. Calcium oxalate crystals
- C. Cystine crystals
- D. Struvite crystals

Crystals in urine reflect both composition and pH, and certain shapes point to specific substances. When urine is acidic, uric acid tends to precipitate and forms recognizable rhomboid (diamond-like) or rosette-shaped crystals. That crystalline pattern is a classic clue for uric acid in acidic urine, and uric acid crystals dissolve when the urine becomes alkaline, which helps distinguish them from others. Calcium oxalate crystals, while common, usually appear as envelope-shaped dihydrate crystals or dumbbells, not rhomboids or rosettes. Cystine crystals are hexagonal and colorless, not rhomboid. Struvite crystals form coffin-lid or prism shapes and are typical of alkaline urine associated with certain infections. So the rhomboid or rosette appearance in acidic urine is most characteristic of uric acid crystals.

10. Which color is most significantly affected by bilirubin in a routine urinalysis?

A. Bilirubin

B. Glucose

C. Albumin

D. Ketones

Bilirubin is a pigmented breakdown product that colors urine. When bilirubin is present in the urine, it imparts a yellow orange to amber hue, directly changing the sample's color on gross inspection and contributing to the color read on the urine dipstick test. The other substances listed—glucose, albumin, and ketones—do not produce a noticeable color change in the urine itself during routine testing; they are detected by specific assays or cause other abnormalities but not a distinct color shift.

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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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