

CLINICAL LABORATORY DX EXAM 2 PRACTICE (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 item is listed as a cause of decreased BUN?**
 - A. Liver failure
 - B. Negative nitrogen balance
 - C. Nephrotic syndrome
 - D. Over hydration
- 2. ANA is sensitive for which disease?**
 - A. Rheumatoid arthritis
 - B. Dermatomyositis
 - C. Periarthritis
 - D. Systemic lupus erythematosus
- 3. Which item is listed as a cause of increased BUN in the third group?**
 - A. Shock
 - B. Starvation
 - C. Ureteral obstruction
 - D. Sepsis
- 4. Ketones are the end product of which metabolic process?**
 - A. Glycolysis
 - B. Nucleotide metabolism
 - C. Protein synthesis
 - D. Fatty acid breakdown
- 5. An elevated TSI level is most closely associated with which disease?**
 - A. Graves disease
 - B. Hashimoto's thyroiditis
 - C. Goiter
 - D. Subacute thyroiditis
- 6. In hyperthyroid states, which hormones are typically elevated?**
 - A. TRH
 - B. TSH
 - C. T3 and T4
 - D. T4 only

7. Which HLA allele is associated with both celiac disease and type 1 diabetes?
- A. HLA B8
 - B. HLA DQ8
 - C. HLA DQ2
 - D. HLA DR3
8. Failure of which biomarker to normalize may indicate ongoing damage to heart tissue?
- A. Troponin I
 - B. CK-MB
 - C. CRP
 - D. Myoglobin
9. Glucosuria is NOT normally present.
- A. False
 - B. Sometimes
 - C. True
 - D. Never
10. Which biomarker is most commonly elevated in ovarian cancer detection?
- A. CA-19-9
 - B. CEA
 - C. AFP
 - D. CA-125

Answers

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

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Explanations

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1. Which item is listed as a cause of decreased BUN?

- A. Liver failure
- B. Negative nitrogen balance**
- C. Nephrotic syndrome
- D. Over hydration

Blood urea nitrogen reflects how much urea the liver makes from ammonia during protein metabolism. When nitrogen balance is negative, the body is losing more nitrogen than it gains, so there's less amino acid substrate available for deamination and urea formation. With less urea produced, the BUN level falls. This direct link between inadequate nitrogen intake and reduced urea synthesis makes negative nitrogen balance the best explanation for a decrease in BUN in a nutrition-focused context.

2. ANA is sensitive for which disease?

- A. Rheumatoid arthritis
- B. Dermatomyositis
- C. Periarthritis
- D. Systemic lupus erythematosus**

Antinuclear antibodies are extremely sensitive for systemic lupus erythematosus; most patients with SLE have ANA detectable, which is why it's used as a first screening test when lupus is suspected. A positive ANA strongly supports the possibility of SLE, although it's not specific—many other autoimmune diseases and even some healthy people can have a positive result. Because of that, a positive ANA prompts follow-up testing with more disease-specific antibodies (like anti-dsDNA or anti-Smith) to confirm and refine the diagnosis. In the other conditions listed, ANA can be present but not as consistently or characteristically as in SLE, making systemic lupus erythematosus the disease for which ANA testing is most sensitive.

3. Which item is listed as a cause of increased BUN in the third group?

- A. Shock
- B. Starvation
- C. Ureteral obstruction
- D. Sepsis**

BUN rises when the kidneys aren't clearing urea effectively or when more urea is produced from protein breakdown. Sepsis fits this by commonly causing acute kidney injury from reduced blood flow and inflammatory damage, along with a hypercatabolic state that increases protein breakdown and urea production. This combination pushes BUN higher. While other conditions can influence BUN, sepsis is the scenario here that most consistently leads to an elevated BUN due to both impaired clearance and increased production.

4. Ketones are the end product of which metabolic process?

- A. Glycolysis
- B. Nucleotide metabolism
- C. Protein synthesis
- D. Fatty acid breakdown**

Ketones are produced when fatty acids are broken down for energy, especially during fasting or low carbohydrate intake. In the liver, fatty acids undergo beta-oxidation to yield acetyl-CoA. If carbohydrate supply is limited, oxaloacetate is diverted to gluconeogenesis, restricting the entry of acetyl-CoA into the citric acid cycle. The excess acetyl-CoA is then used to form ketone bodies—acetoacetate, beta-hydroxybutyrate, and acetone—which are released into the bloodstream and used by tissues (like the brain and muscle) as an alternative energy source during prolonged fasting. Thus, the end products of fatty acid breakdown in this context are ketone bodies.

5. An elevated TSI level is most closely associated with which disease?

- A. Graves disease**
- B. Hashimoto's thyroiditis
- C. Goiter
- D. Subacute thyroiditis

Elevated thyroid-stimulating immunoglobulins (TSI) are autoantibodies that bind to and activate the TSH receptor on thyroid cells, mimicking TSH and driving increased production of thyroid hormones. This antibody pattern is most characteristic of Graves disease, where TSI cause diffuse, hyperfunctioning thyroid activity and are often linked with other Graves features like eye signs. In Hashimoto's thyroiditis, the immune system mainly produces anti-thyroid peroxidase and anti-thyroglobulin antibodies, leading to hypothyroidism rather than TSI-mediated hyperthyroidism. Subacute thyroiditis involves inflammatory destruction of the thyroid with release of preformed hormones, not stimulation via TSH receptors, so TSI are not elevated. Goiter simply denotes thyroid enlargement from various causes and does not specifically indicate elevated TSI.

6. In hyperthyroid states, which hormones are typically elevated?

- A. TRH
- B. TSH
- C. T3 and T4**
- D. T4 only

Elevated hormones in hyperthyroidism are the thyroid's own hormones, T3 and T4. When the thyroid is overactive, it pumps out more of these hormones into the bloodstream, speeding up metabolism and causing symptoms like weight loss, heat intolerance, and palpitations. The body uses negative feedback to keep things in check: high levels of T3 and T4 tell the hypothalamus to reduce TRH and the pituitary to reduce TSH. As a result, TRH and TSH are typically low in primary hyperthyroidism, while T3 and T4 are elevated. (Only rare cases like a TSH-secreting tumor would have high TSH, but that's not the usual pattern.)

7. Which HLA allele is associated with both celiac disease and type 1 diabetes?

- A. HLA B8
- B. HLA DQ8**
- C. HLA DQ2
- D. HLA DR3

HLA class II genes shape susceptibility to autoimmune diseases, and some alleles are shared across conditions. In celiac disease, the strongest genetic risk comes from HLA-DQ2, with HLA-DQ8 also contributing. In type 1 diabetes, risk is tied to haplotypes that include DR3-DQ2 and DR4-DQ8. The overlap that stands out is HLA-DQ8, which appears in the type 1 diabetes risk haplotype DR4-DQ8 and is also a celiac-associated allele. Therefore, HLA-DQ8 is the allele most consistently linked to both conditions.

8. Failure of which biomarker to normalize may indicate ongoing damage to heart tissue?

- A. Troponin I
- B. CK-MB
- C. CRP**
- D. Myoglobin

The key idea is that markers tied directly to heart muscle injury track ongoing damage differently than inflammatory markers. Troponin I is highly specific to cardiac muscle and, once released, stays elevated for days. If levels fail to return to baseline, that suggests continued cardiomyocyte death or ongoing injury. CK-MB behaves similarly but returns to normal more quickly, so prolonged elevation also signals ongoing damage, though it's less specific. Myoglobin rises early and clears fast, so it isn't a reliable indicator of ongoing injury. CRP reflects inflammation in general and can remain elevated with ongoing inflammatory processes, including after heart injury, but it does not measure cardiomyocyte death itself. So, for indicating persistent myocardial damage, the most direct signal is troponin I.

9. Glucosuria is NOT normally present.

- A. False
- B. Sometimes
- C. True**
- D. Never

Glucose is filtered by the kidneys and then almost entirely reabsorbed in the proximal tubule up to a renal threshold of about 180 mg/dL. In healthy individuals, plasma glucose rarely exceeds this threshold, so urine glucose is not present. Glucosuria appears only when blood glucose is high enough to spill into urine or when tubular reabsorption is impaired. Because glucosuria should not be seen under normal conditions, the statement is true. If glucosuria is detected, it points to hyperglycemia (as in diabetes) or proximal tubule dysfunction, not a normal finding.

10. Which biomarker is most commonly elevated in ovarian cancer detection?

- A. CA-19-9
- B. CEA
- C. AFP
- D. CA-125**

CA-125 is the marker most commonly elevated in ovarian cancer because it is a glycoprotein produced by cells derived from the coelomic epithelium, including many ovarian epithelial tumor cells. As tumor burden and peritoneal involvement increase, more CA-125 is released into the bloodstream, making it a useful indicator of ovarian cancer activity. Clinically, it's used to monitor treatment response and detect recurrence, and it can aid in screening for high-risk individuals when combined with imaging, though it is not perfect for screening on its own due to elevations in several benign conditions. The other markers are more strongly associated with other cancers—CA-19-9 with pancreatic/biliary cancers, CEA with colorectal cancers, and AFP with hepatocellular carcinoma and certain germ cell tumors—so they're less specific for ovarian cancer.

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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://clinicallyabdx2.examzify.com>

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

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