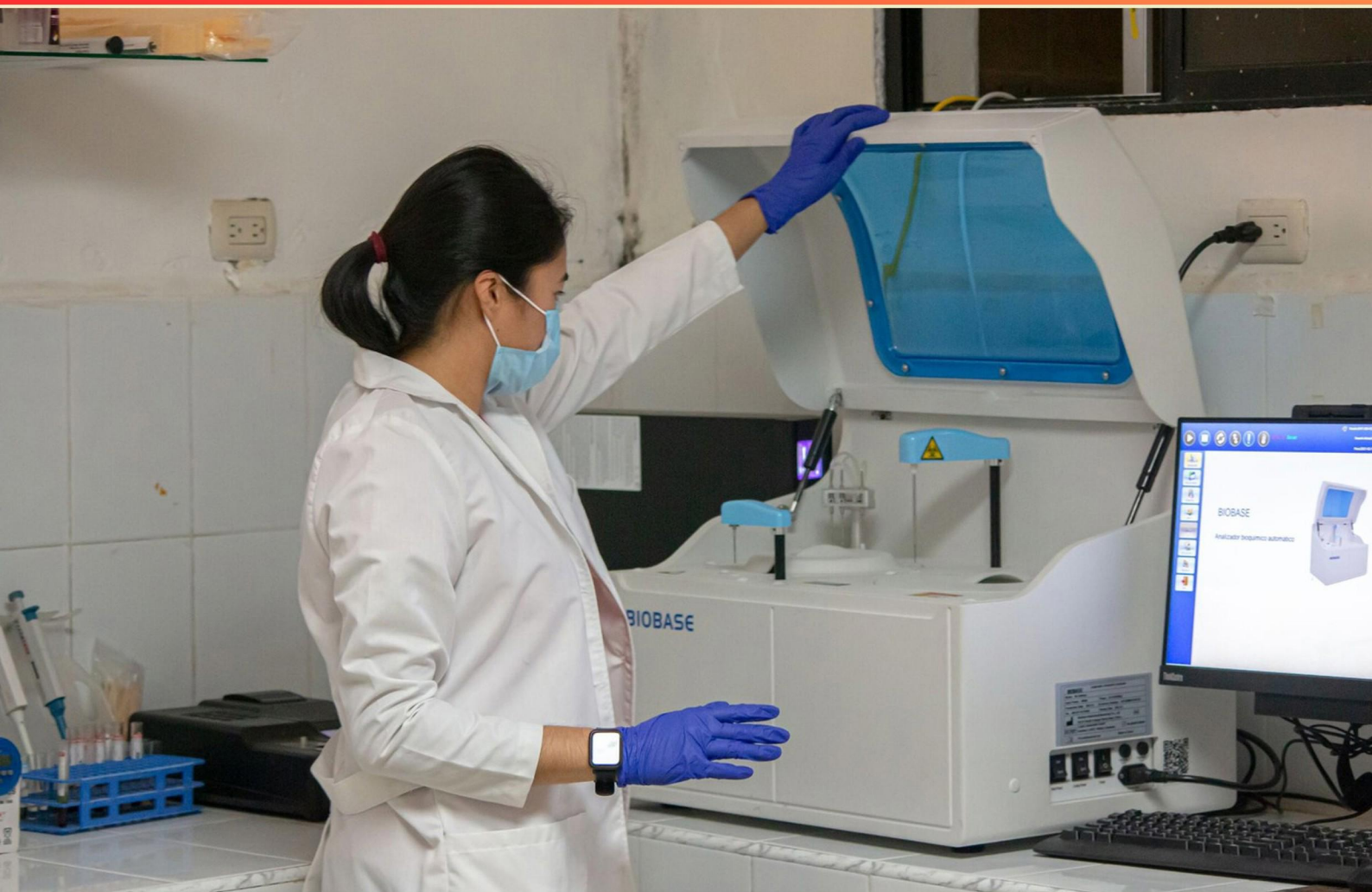


SFMS LABORATORY PRACTICE TEST (SAMPLE)

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. Banded neutrophils have a nucleus indentation that is how much of the width?**
 - A. Nucleus indented more than 25% of width
 - B. Nucleus with six lobes
 - C. Nucleus indented more than 50% of width
 - D. Cytoplasm lacking granules
- 2. Where is *Schistosoma haematobium* typically located in the human host?**
 - A. Veins of the Liver
 - B. Venules of the Urinary Bladder
 - C. Arteries of the Kidney
 - D. Lymphatics of the Intestines
- 3. Which statement about adult Hb composition is correct?**
 - A. Most adult Hb is comprised of 2 gamma and 2 delta chains
 - B. Most adult Hb is comprised of 2 alpha and 2 gamma globin chains
 - C. Most adult Hb is comprised of 2 alpha and 2 beta globin chains
 - D. Most adult Hb is comprised of 4 alpha globin chains
- 4. For diagnosing *Schistosoma haematobium* infection, which specimen is preferred?**
 - A. Blood
 - B. Urine
 - C. Stool
 - D. Sputum
- 5. Which feature is characteristic of the adult *Enterobius vermicularis*?**
 - A. Prominent esophageal bulb
 - B. Prominent cephalic nucleus
 - C. Short esophagus with no bulb
 - D. Thick cuticle with spines

- 6. Amorphous urates are associated with which pH?**
- A. pH <7.0
 - B. pH >7.0
 - C. Neutral pH
 - D. Not related to pH
- 7. Which of the following lists the four criteria used to identify white blood cells?**
- A. Size and shape; Cytoplasm; Nucleus; Granules
 - B. Size and shape; Cytoplasm; Nucleus
 - C. Size; Shape; Nucleus; Cytoplasmic granules
 - D. Cytoplasm; Nucleus; Granules; Color of cytoplasm
- 8. Two-hour postprandial urine testing is used for what purpose?**
- A. Measuring kidney function
 - B. Detecting ketones
 - C. Assessing body fluid pH
 - D. Testing glucose and monitoring insulin therapy in patients with diabetes
- 9. What are the hemolytic patterns observed on blood agar plates?**
- A. Gamma only
 - B. Alpha, Beta, Gamma
 - C. Alpha and Beta only
 - D. Alpha, Beta, Delta
- 10. Which lesion is associated with tertiary syphilis?**
- A. Chancre at infection site
 - B. Erythema multiforme
 - C. Gummata
 - D. Condylomata acuminata

Answers

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

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Explanations

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1. Banded neutrophils have a nucleus indentation that is how much of the width?

- A. Nucleus indented more than 25% of width
- B. Nucleus with six lobes
- C. Nucleus indented more than 50% of width**
- D. Cytoplasm lacking granules

Identifying a band neutrophil hinges on nucleus shape. In band neutrophils the nucleus is long and there is a single, smooth indentation that runs across most of the nucleus. When that indentation spans more than half of the nucleus width, it creates the characteristic band-like appearance. This distinguishes band neutrophils from segmented neutrophils, which have multiple lobes, and from earlier maturation stages where the indentation is shallower or the nucleus is kidney-shaped. So the statement that the nucleus is indented more than 50% of the width captures the defining feature of a band neutrophil. The other options describe features not characteristic of band cells: a shallower indentation (more than 25% but not over 50%) isn't sufficient to call it a band; six lobes would indicate hypersegmentation, not a band; and cytoplasm granules are not the distinguishing factor for banding.

2. Where is *Schistosoma haematobium* typically located in the human host?

- A. Veins of the Liver
- B. Venules of the Urinary Bladder**
- C. Arteries of the Kidney
- D. Lymphatics of the Intestines

**Schistosoma haematobium* specializes in the urinary tract, with the adult worms taking up residence in the venous system draining the bladder—the vesical venous plexus. This location explains why it causes urinary symptoms, including blood in the urine, as eggs are deposited through the bladder wall into the urine. The other sites belong to different schistosome species or parasites: the liver and mesenteric veins host species that cause intestinal and hepatic disease, the kidney arteries are not typical habitats for schistosomes, and the lymphatics of the intestines are associated with other parasites or diseases.*

3. Which statement about adult Hb composition is correct?

- A. Most adult Hb is comprised of 2 gamma and 2 delta chains
- B. Most adult Hb is comprised of 2 alpha and 2 gamma globin chains
- C. Most adult Hb is comprised of 2 alpha and 2 beta globin chains**
- D. Most adult Hb is comprised of 4 alpha globin chains

In adults, the dominant form of hemoglobin is HbA, which is made of two alpha and two beta globin chains ($\alpha_2\beta_2$). After birth, the body shifts from producing gamma chains (found in fetal Hb, $\alpha_2\gamma_2$) to beta chains, so HbA becomes the major hemoglobin. A smaller amount of HbA₂ ($\alpha_2\delta_2$) exists, but it accounts for only about 2–3% of total Hb, while fetal Hb (HbF, $\alpha_2\gamma_2$) remains very low in healthy adults. The four alpha chain form (α_4) is not the normal adult hemoglobin; it appears in specific abnormal conditions, not in typical adult Hb. Thus, the statement that most adult Hb is composed of two alpha and two beta chains correctly identifies the common adult hemoglobin composition.

4. For diagnosing *Schistosoma haematobium* infection, which specimen is preferred?

- A. Blood
- B. Urine**
- C. Stool
- D. Sputum

Schistosoma haematobium causes urinary schistosomiasis, so its eggs are released into urine rather than stool or blood. Detecting these eggs in urine is the most direct and reliable way to diagnose infection, typically by concentrating the urine (urine filtration or sedimentation) and examining for the characteristic terminal-spined eggs. Egg excretion is best around midday, so collecting urine between late morning and early afternoon increases the likelihood of finding eggs. Stool would miss this urinary species, blood samples don't reliably reveal the eggs, and sputum isn't involved in this parasite. Therefore, urine is the preferred specimen for diagnosing *Schistosoma haematobium*.

5. Which feature is characteristic of the adult *Enterobius vermicularis*?

- A. Prominent esophageal bulb
- B. Prominent cephalic nucleus**
- C. Short esophagus with no bulb
- D. Thick cuticle with spines

A key idea is differentiating adult intestinal nematodes by features of the head region and nervous system. *Enterobius vermicularis* has a notably prominent cephalic nucleus in the anterior end, a concentration of neural tissue around the nerve ring that stands out under microscopy. This distinct head-region feature helps distinguish pinworms from other nematodes more than other traits. In contrast, a prominent esophageal bulb is not typical of pinworms—their esophagus is relatively short and lacks a pronounced bulb—nor is a thick, spiny cuticle characteristic, since *Enterobius* has a smooth cuticle. So the most reliable identifying trait for the adult pinworm among these options is the prominent cephalic nucleus.

6. Amorphous urates are associated with which pH?

- A. pH <7.0**
- B. pH >7.0
- C. Neutral pH
- D. Not related to pH

Amorphous urates form when urine is acidic. In acidic urine, urate salts precipitate as fine, granular deposits rather than well-defined crystals. If the urine becomes more alkaline, these amorphous urates dissolve, and other, different crystals may appear. So they're specifically associated with a pH below 7, not neutral or alkaline urine.

7. Which of the following lists the four criteria used to identify white blood cells?

- A. Size and shape; Cytoplasm; Nucleus; Granules
- B. Size and shape; Cytoplasm; Nucleus
- C. Size; Shape; Nucleus; Cytoplasmic granules
- D. Cytoplasm; Nucleus; Granules; Color of cytoplasm

Identifying white blood cells by microscope relies on four observable features: how big the cell is, its overall shape, what the nucleus looks like, and whether the cytoplasm contains granules. Size helps separate WBCs from smaller cells like red blood cells and platelets. The shape and the nucleus together differentiate major WBC types: for example, some have multilobed nuclei while others have a large, round or kidney-shaped nucleus. The cytoplasm's appearance varies between cells, and the presence of cytoplasmic granules is a key distinction—granulocytes (neutrophils, eosinophils, basophils) show noticeable granules, whereas agranulocytes (lymphocytes, monocytes) do not. Because these four aspects together provide a consistent set of features to identify and classify white blood cells, the best list includes size and shape, cytoplasm, nucleus, and cytoplasmic granules. Relying on other cues like color of the cytoplasm isn't as reliable or specific for identification.

8. Two-hour postprandial urine testing is used for what purpose?

- A. Measuring kidney function
- B. Detecting ketones
- C. Assessing body fluid pH
- D. Testing glucose and monitoring insulin therapy in patients with diabetes

Two-hour postprandial urine testing targets how much glucose appears in urine after a meal, reflecting how well blood glucose is controlled in someone with diabetes. After eating, blood glucose rises; if it stays high enough to exceed the kidneys' ability to reabsorb all the glucose, it spills into urine. Measuring urine glucose at about two hours post-meal helps clinicians gauge post-meal glycemic control and adjust insulin doses or dietary plans accordingly. It's specifically about glucose monitoring in the context of diabetes management, not about kidney function, ketones, or urine pH, which are assessed for other conditions. Keep in mind urine glucose testing is less precise than checking blood glucose and can be influenced by individual renal thresholds and hydration.

9. What are the hemolytic patterns observed on blood agar plates?

- A. Gamma only
- B. Alpha, Beta, Gamma
- C. Alpha and Beta only
- D. Alpha, Beta, Delta

Blood agar shows how bacteria lyse red blood cells around their colonies, producing three classic patterns: alpha, beta, and gamma. Alpha hemolysis is partial, giving a greenish zone due to partial hemoglobin breakdown. Beta hemolysis is complete, creating a clear, colorless zone as all red cells are lysed. Gamma hemolysis means no lysis at all, so the surrounding medium stays unchanged. Delta isn't a standard term for hemolysis on blood agar. Because all three real patterns can be observed, the correct answer includes alpha, beta, and gamma. Recognizing these helps guide identification: beta-hemolytic organisms often include certain pathogenic streptococci, alpha-hemolytic ones include others like *Streptococcus pneumoniae* and viridans group, and gamma-hemolysis covers non-hemolytic species.

10. Which lesion is associated with tertiary syphilis?

- A. Chancre at infection site
- B. Erythema multiforme
- C. Gummata**
- D. Condylomata acuminata

Tertiary syphilis can produce gumma formation—soft, granulomatous lesions that may ulcerate and cause tissue destruction in skin, mucous membranes, bone, or internal organs. These gummas are late manifestations of the disease and distinguish the tertiary stage. A chancre is the painless ulcer of primary syphilis, which appears early after infection and usually heals on its own. Erythema multiforme is a hypersensitivity reaction that can accompany various infections or drug exposures and is not specific to syphilis. Condylomata acuminata are genital warts caused by human papillomavirus, not syphilis.

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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://sfmslab.examzify.com>

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

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