

# Success! In Clinical Laboratory Science - Parasitology Practice Test (Sample)

## Study Guide



**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

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- 1. Which nematode produces barrel-shaped eggs that are elongated and measure 50 by 22  $\mu\text{m}$  with polar plugs at each end?**
  - A. *Trichuris trichiura***
  - B. *Ascaris lumbricoides***
  - C. *Ancylostoma duodenale***
  - D. *Necator americanus***
  
- 2. Pneumonia-like complications due to larval migration through the lungs are most associated with infection by which organism?**
  - A. Hookworm**
  - B. *Schistosoma japonicum***
  - C. *Strongyloides stercoralis***
  - D. *Ascaris lumbricoides***
  
- 3. *Enterobius vermicularis* infection is usually diagnosed by finding eggs in which specimen?**
  - A. Eggs in the feces**
  - B. Eggs in perianal specimens**
  - C. Larvae in a stool specimen**
  - D. Adults in feces**
  
- 4. Which organism has a trophozoite stage that is infectious to humans?**
  - A. *Endolimax nana***
  - B. *Dientamoeba fragilis***
  - C. *Entamoeba coli***
  - D. *Giardia duodenalis***
  
- 5. Which organism is characterized by an uninuclear trophozoite?**
  - A. *Chilomastix mesnil***
  - B. *Balantidium coli***
  - C. *Dientamoeba fragilis***
  - D. *Giardia duodenalis***

- 6. Which parasite eggs are typically found in perianal specimens for diagnosis?**
- A. Enterobius vermicularis**
  - B. Ascaris lumbricoides**
  - C. Necator americanus**
  - D. Trichuris trichiura**
- 7. Unembryonated eggs with an inconspicuous operculum, a small knob on the end opposite the operculum, and a size around 65 to 75  $\mu\text{m}$  were seen in the stool of a traveler who often eats raw fish. What is the most likely identification?**
- A. Fasciola hepatica**
  - B. Diphylobothrium latum**
  - C. Paragonimus westermani**
  - D. Clonorchis sinensis**
- 8. Which parasite produces an elongated, barrel-shaped egg measuring 50 by 22  $\mu\text{m}$  with a colorless polar plug at each end?**
- A. Ascaris lumbricoides**
  - B. Hymenolepis nana**
  - C. Necator americanus**
  - D. Trichuris trichiura**
- 9. Serologic testing is the primary method of diagnosing infection with which organism?**
- A. Schistosoma japonicum**
  - B. Cyclospora cayetanensis**
  - C. Naegleria fowleri**
  - D. Toxoplasma gondii**
- 10. A Wright-stained blood smear may show a Maltese cross tetrad within red blood cells, indicating which parasite?**
- A. Babesia sp.**
  - B. Plasmodium vivax**
  - C. Plasmodium falciparum**
  - D. Plasmodium malariae**

## **Answers**

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

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## **Explanations**

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**1. Which nematode produces barrel-shaped eggs that are elongated and measure 50 by 22  $\mu\text{m}$  with polar plugs at each end?**

- A. Trichuris trichiura**
- B. Ascaris lumbricoides**
- C. Ancylostoma duodenale**
- D. Necator americanus**

Egg morphology is a key identifying feature for nematodes in fecal exams. The description of eggs that are elongated, barrel-shaped, about 50 by 22  $\mu\text{m}$ , with clear polar plugs at each end is classic for *Trichuris trichiura*, the whipworm. The barrel shape and the distinct plugs at both ends are distinctive and closely tied to this species' eggs, making it the best fit for the given measurements and features. *Ascaris lumbricoides* eggs are typically oval or slightly round and larger, with a thick, mammillated outer shell and no polar plugs, so they don't match the barrel-with-plug appearance. Hookworm eggs from *Ancylostoma duodenale* or *Necator americanus* are thin-shelled and oval, usually about 60 by 40  $\mu\text{m}$ , and they may contain a developing embryo rather than a polar-plug, barrel form.

**2. Pneumonia-like complications due to larval migration through the lungs are most associated with infection by which organism?**

- A. Hookworm**
- B. Schistosoma japonicum**
- C. Strongyloides stercoralis**
- D. Ascaris lumbricoides**

Pneumonia-like symptoms from larval migration through the lungs occur because some nematode larvae travel via the bloodstream to the lungs, causing transient pneumonitis with eosinophilia. The classic organism associated with this pulmonary migration is *Ascaris lumbricoides*. As the larvae pass through the lungs, patients may develop cough, wheezing, chest discomfort, and transient infiltrates on imaging (Loeffler's syndrome); after a short period, the larvae are swallowed back into the digestive tract and mature in the small intestine. While hookworms and *Strongyloides stercoralis* can also cause similar lung-stage symptoms during their migration, the association is most strongly and conventionally linked to *Ascaris lumbricoides*. *Schistosoma japonicum* mainly causes hepatic and intestinal disease, with pulmonary involvement not classically tied to larval migration through the lungs. So, the pneumonia-like pulmonary phase during larval migration is best linked to *Ascaris lumbricoides*.

**3. Enterobius vermicularis infection is usually diagnosed by finding eggs in which specimen?**

- A. Eggs in the feces
- B. Eggs in perianal specimens**
- C. Larvae in a stool specimen
- D. Adults in feces

Eggs are laid around the anus by the female worms, so the most effective diagnostic material is a perianal specimen. Using a piece of clear adhesive tape or a perianal swab pressed to the skin first thing in the morning captures the eggs, which are then seen under the microscope. Eggs in feces are not routinely found or reliable for diagnosis, and adults or larvae in stool do not reflect the typical shedding pattern. This perianal collection method is the standard way to diagnose Enterobius vermicularis infection.

**4. Which organism has a trophozoite stage that is infectious to humans?**

- A. Endolimax nana
- B. Dientamoeba fragilis**
- C. Entamoeba coli
- D. Giardia duodenalis

The key idea is that most intestinal protozoa transmit via a cyst that can survive outside the host, but some have infectious trophozoites instead. Dientamoeba fragilis is unique in that its trophozoite form is considered the infectious stage. There isn't a reliably demonstrated cyst form for this organism, so infection begins when trophozoites are ingested and establish in the large intestine. In contrast, the other organisms rely on cysts for transmission. Giardia duodenalis forms environmentally resistant cysts that are ingested to cause infection, while Endolimax nana and Entamoeba coli also transmit via cysts. Their trophozoites are the active, feeding forms inside the host but are not typically the infectious units themselves. So, the organism with a trophozoite stage that is infectious to humans is Dientamoeba fragilis.

**5. Which organism is characterized by an uninuclear trophozoite?**

- A. Chilomastix mesnili**
- B. Balantidium coli
- C. Dientamoeba fragilis
- D. Giardia duodenalis

Uninuclear trophozoites point to a single nucleus in the actively feeding form. Among well-known intestinal protozoa, Chilomastix mesnili has a trophozoite with one nucleus, making this organism identifiable by that feature. In contrast, Giardia duodenalis trophozoites typically have two nuclei, Balantidium coli trophozoites possess a macronucleus and a micronucleus, and Dientamoeba fragilis trophozoites are usually binucleate. So recognizing a single, central nucleus in the trophozoite strongly supports Chilomastix mesnili. The cyst form is also single-nucleated, which can aid confirmation on stained preparations.

**6. Which parasite eggs are typically found in perianal specimens for diagnosis?**

- A. Enterobius vermicularis**
- B. Ascaris lumbricoides**
- C. Necator americanus**
- D. Trichuris trichiura**

The main idea is that pinworm infection is diagnosed by detecting eggs around the anus. Female *Enterobius vermicularis* migrate to the perianal area at night to lay eggs, so collecting a sample from the skin near the anus (often with a sticky tape swab in the morning) will reveal these eggs under the microscope. This perianal scrap or tape test is the classic method for diagnosing pinworm because it specifically targets the site where the eggs are laid. The other parasites listed produce eggs that are typically found in stool samples rather than around the perianal skin, and their eggs have different appearances and diagnostic contexts, so they are not commonly detected this way.

**7. Unembryonated eggs with an inconspicuous operculum, a small knob on the end opposite the operculum, and a size around 65 to 75  $\mu\text{m}$  were seen in the stool of a traveler who often eats raw fish. What is the most likely identification?**

- A. Fasciola hepatica**
- B. Diphyllbothrium latum**
- C. Paragonimus westermani**
- D. Clonorchis sinensis**

Recognizing egg morphology and how the parasite is acquired guides identification. These eggs are about 65-75  $\mu\text{m}$  in length, are unembryonated when shed, and show an operculum with a small knob on the opposite end. This combination is classic for the fish tapeworm *Diphyllbothrium latum*. The size fits the typical range for its eggs, and the operculated, knobbed egg is a distinctive feature. The traveler's history of eating raw fish fits the transmission route, since *Diphyllbothrium latum* is acquired from consuming undercooked freshwater fish. Other parasites have different egg sizes and food exposures. For example, eggs of *Clonorchis sinensis* are smaller, while *Fasciola hepatica* eggs are larger and linked to ingestion of aquatic plants, and *Paragonimus westermani* eggs are typically associated with crustaceans and pulmonary symptoms. The combination of the egg size, unembryonated state, and fish-related exposure makes *Diphyllbothrium latum* the best fit.

**8. Which parasite produces an elongated, barrel-shaped egg measuring 50 by 22  $\mu\text{m}$  with a colorless polar plug at each end?**

- A. *Ascaris lumbricoides***
- B. *Hymenolepis nana***
- C. *Necator americanus***
- D. *Trichuris trichiura***

Recognizing eggs by distinctive shape and size is key. An elongated, barrel-shaped egg with colorless polar plugs at both ends, about 50 by 22  $\mu\text{m}$ , is the classic appearance of whipworm eggs. That barrel form with bipolar plugs is so characteristic that it points directly to *Trichuris trichiura*. Other common eggs don't show this combination: *Ascaris lumbricoides* eggs are ovoid with a knobby (mammillated) outer shell; *Necator americanus* eggs are thin-shelled and often contain a developing embryo without polar plugs; *Hymenolepis nana* eggs are smaller and ovoid with a different shell and internal content.

**9. Serologic testing is the primary method of diagnosing infection with which organism?**

- A. *Schistosoma japonicum***
- B. *Cyclospora cayetanensis***
- C. *Naegleria fowleri***
- D. *Toxoplasma gondii***

Serologic testing is most useful for detecting exposure to *Toxoplasma gondii* by measuring antibodies the immune system makes against the parasite. This organism often causes latent or asymptomatic infections, and direct visualization or culture from a patient sample is difficult or unreliable. Serology provides a noninvasive, widely available way to establish whether someone has been infected, to distinguish recent from past infection (using IgM, IgG, and IgG avidity tests), and to monitor congenital infection risk. In contrast, the other organisms are typically diagnosed by direct detection methods: looking for parasite eggs in stools or urine (*Schistosoma japonicum*), identifying oocysts or cysts in stool with special stains (*Cyclospora cayetanensis*), or examining cerebrospinal fluid with culture, microscopy, or PCR for a rapid, life-threatening CNS infection (*Naegleria fowleri*). Hence serology isn't the primary diagnostic tool for those organisms.

**10. A Wright-stained blood smear may show a Maltese cross tetrad within red blood cells, indicating which parasite?**

- A. Babesia sp.**
- B. Plasmodium vivax**
- C. Plasmodium falciparum**
- D. Plasmodium malariae**

The key idea is that a Maltese cross tetrad inside red blood cells on a Wright-stained smear is a distinctive clue for Babesia infection. Babesia parasites reproduce within erythrocytes and form four merozoites arranged as a cross, producing this characteristic Maltese cross pattern. Seeing this tetrad strongly points to Babesia rather than malaria parasites. Malaria parasites pull different intraerythrocytic forms. Plasmodium vivax typically shows enlarged red cells with Schuffner's stippling; Plasmodium falciparum often presents with multiple small ring forms in a single red cell; Plasmodium malariae shows banded trophozoites and a rosette schizont. None of these produce the Maltese cross tetrad seen with Babesia. So, recognizing the Maltese cross within red cells on a Wright-stained smear identifies Babesia species as the parasite.

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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](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://sucessinclinicallabparasitology.examzify.com>**

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

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