

BIOLOGY MARKING PERIOD 3 PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

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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. What is biomass?

- A. Stored energy in sunlight.
- B. Stored energy in living tissue that can be passed to the next trophic level when eaten.
- C. The rate at which energy flows through an ecosystem.
- D. The total number of organisms in an area.

2. Which option is not a direct definition provided for organ system or organism?

- A. A group of organs working together to perform a function
- B. A living thing
- C. A single organ
- D. A living cell

3. Which option best matches the concept of an organ system?

- A. A living thing
- B. A single organ
- C. A group of organs working together to perform a function
- D. A cell

4. Which statement correctly characterizes an organ system?

- A. It is a living thing
- B. It is a single organ
- C. It is a group of organs working together to perform a function
- D. It is a cell

5. What is a selective pressure?

- A. A type of mutation.
- B. Something that gives certain traits an advantage.
- C. An environmental change that has no effect.
- D. A factor that decreases survival of all individuals.

6. Which option correctly identifies the term for a living thing?

- A. Organ
- B. System
- C. Tissue
- D. Organism

7. What does 'systems within systems' mean in biology?

- A. Each level is independent and does not affect others.
- B. The smallest components alone determine the system.
- C. Levels are disconnected sequences with no interaction.
- D. Each level is made of smaller parts working together.

8. Which property best describes the cell membrane's role?

- A. Stores genetic information
- B. Provides energy
- C. Offers structural support
- D. Controls what enters and leaves the cell

9. What does the cytoskeleton do?

- A. Provides structure
- B. Stores energy
- C. Replicates DNA
- D. Provides structure and helps movement

10. Which protein carries most of the oxygen in the blood?

- A. Hemoglobin
- B. Myoglobin
- C. Albumin
- D. Fibrinogen

Answers

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

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Explanations

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1. What is biomass?

- A. Stored energy in sunlight.
- B. Stored energy in living tissue that can be passed to the next trophic level when eaten.**
- C. The rate at which energy flows through an ecosystem.
- D. The total number of organisms in an area.

Biomass is the amount of living matter in a given area, representing the stored chemical energy in the tissues of organisms. This stored energy is what can be passed on to the next trophic level when organisms are eaten, though only a portion makes it through due to metabolic costs and heat loss. Biomass is often measured as dry mass per area (like grams per square meter) or as carbon content, and it reflects a stock—an amount stored at a given time—not a rate of energy flow. The other options describe energy input from sunlight, the rate at which energy moves through the ecosystem, or the number of organisms, none of which capture the stored tissue energy available for consumption.

2. Which option is not a direct definition provided for organ system or organism?

- A. A group of organs working together to perform a function
- B. A living thing
- C. A single organ
- D. A living cell**

Understanding levels of biological organization helps explain this. An organ system is a group of organs working together to perform a function, and an organism is a living thing. Describing a single organ doesn't define an organ system or an organism—it's just one component, not the whole system or the whole living being. Describing a living cell isn't a definition of either organ system or organism either, because it points to the cell level, the basic unit of life, which can be part of a larger organism but does not by itself define the entire system or the whole organism. So the statement about a living cell is the one that does not directly define an organ system or an organism.

3. Which option best matches the concept of an organ system?

- A. A living thing
- B. A single organ
- C. A group of organs working together to perform a function**
- D. A cell

An organ system is a group of organs that work together to perform a specific function for the body. Each organ brings its specialized role, and they coordinate—often through signals like hormones or nerves—to accomplish a larger task, such as digestion or circulation. For instance, the digestive system includes multiple organs like the stomach, intestines, liver, and pancreas, all collaborating to break down food, absorb nutrients, and remove waste. A single organ, like the stomach, handles only a part of that process. A cell is far smaller and not an assembled set of organs, and a living thing refers to the whole organism that contains one or more organ systems. Hence, the option describing a group of organs working together to perform a function best matches the concept.

4. Which statement correctly characterizes an organ system?

- A. It is a living thing
- B. It is a single organ
- C. It is a group of organs working together to perform a function**
- D. It is a cell

An organ system is a group of organs working together to perform a function. This combined action is what enables the body to carry out complex tasks essential for survival, not just a single organ in isolation. For example, the digestive system includes several organs like the stomach, intestines, liver, and pancreas that coordinate to break down food, absorb nutrients, and manage waste. The heart and blood vessels participate in the circulatory system, coordinating to transport oxygen and nutrients throughout the body. The other statements don't fit because a living thing is the entire organism, not just a system; a single organ isn't an organ system; and a cell is far smaller and not an assembly of multiple organs.

5. What is a selective pressure?

- A. A type of mutation.
- B. Something that gives certain traits an advantage.**
- C. An environmental change that has no effect.
- D. A factor that decreases survival of all individuals.

Selective pressure is any factor in the environment that causes individuals with certain traits to have a higher chance of surviving and reproducing than others. This differential success changes how common those traits are over generations, driving evolution. It's not a mutation itself, and it doesn't mean the environment has no effect or that everyone is equally affected. Instead, it acts on existing variation, favoring traits that confer a survival or reproductive advantage. For example, predators may more often catch less camouflaged prey, so better-camouflaged individuals are more likely to survive and pass on their genes. Antibiotics can favor bacteria that carry resistance genes, increasing their frequency. Therefore, a selective pressure is best described as something that gives certain traits an advantage, shaping the population over time.

6. Which option correctly identifies the term for a living thing?

- A. Organ
- B. System
- C. Tissue
- D. Organism**

Organism is the term for a living thing. An organism is any individual life form capable of carrying out life processes such as metabolism, growth, reproduction, and responding to the environment. This includes single-celled entities like bacteria as well as multicellular beings like plants and animals. The other terms describe parts or groups within an organism: tissue is a group of similar cells performing a function, an organ is a structure made of tissues that carries out a specific task, and a system is a set of organs working together to perform broader functions. Because "organism" names the whole living being, it's the best choice for identifying a living thing.

7. What does 'systems within systems' mean in biology?

- A. Each level is independent and does not affect others.
- B. The smallest components alone determine the system.
- C. Levels are disconnected sequences with no interaction.
- D. Each level is made of smaller parts working together.**

Biology uses a hierarchical view where systems are built from smaller parts that work together to produce function at the next level. The idea of "systems within systems" is that a larger system is made up of subsystems, and those subsystems are themselves composed of even smaller parts collaborating to do their job. For example, a tissue is made of cells, cells contain organelles, and organ systems (like the circulatory system) consist of organs and tissues that rely on the activities of their cellular and molecular components. This interconnected, multi-level teamwork means that changes at one level influence others, and the overall function emerges from countless interactions across scales. If a system were independent or if only the smallest components determined outcomes, or if levels didn't interact, we wouldn't see the integrated, coordinated function that biology demonstrates.

8. Which property best describes the cell membrane's role?

- A. Stores genetic information
- B. Provides energy
- C. Offers structural support
- D. Controls what enters and leaves the cell**

The main idea here is that the cell membrane acts as a gatekeeper for the cell. It's a phospholipid bilayer with proteins that form channels and pumps, making the membrane selectively permeable. This means it carefully controls which substances can enter or leave, allowing nutrients in, removing wastes, and keeping harmful materials out. By doing so, it helps maintain the cell's internal conditions and energy balance. Storing genetic information is the job of DNA inside the nucleus, not the membrane. Providing energy comes from organelles like mitochondria, and structural support comes from the cytoskeleton or cell wall.

9. What does the cytoskeleton do?

- A. Provides structure
- B. Stores energy
- C. Replicates DNA
- D. Provides structure and helps movement**

The cytoskeleton is a dynamic network of protein filaments that gives a cell its shape, provides mechanical support, and enables movement. Actin filaments help the cell change shape and move; microtubules act as tracks for transporting materials inside the cell and form spindle fibers during division; intermediate filaments add structural resilience. Because it combines both structural support and the machinery for movement, it best describes providing structure and helps movement. It does not store energy—that role belongs to energy carriers like ATP and glycogen—and it does not replicate DNA, which happens in the nucleus.

10. Which protein carries most of the oxygen in the blood?

A. Hemoglobin

B. Myoglobin

C. Albumin

D. Fibrinogen

Oxygen is carried in the blood mainly by hemoglobin, a protein inside red blood cells that has four heme groups, each capable of binding one O₂ molecule. In the lungs, oxygen binds to the iron in these heme groups, and as blood travels to tissues where oxygen is needed, hemoglobin releases it. This binding and release are cooperative, meaning the binding of one O₂ increases the likelihood of others binding and also facilitates unloading where oxygen is scarce. Myoglobin stores oxygen in muscle tissue and releases it under very low oxygen conditions, but it does not transport oxygen in the bloodstream. Albumin and fibrinogen have other roles in the blood (transport of various substances and clotting, respectively) and do not carry significant amounts of O₂. So the protein responsible for most of the blood's oxygen transport is hemoglobin.

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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://biologymarkingperiod3.examzify.com>

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

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