

PRAXIS II BIOLOGY (5235) PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE

<https://praxis2biology5235.examzify.com>



Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

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	16

SAMPLE

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

SAMPLE

1. What is synapsis in meiosis?

- A. Separation of sister chromatids
- B. Pairing of homologous chromosomes during prophase I
- C. Formation of the spindle apparatus
- D. Duplication of chromosomes before division

2. What are the male reproductive parts of a flower called?

- A. Pistil
- B. Stamen
- C. Style
- D. Ovary

3. What is adaptive radiation?

- A. The adaptation of a species to a single environmental condition
- B. The diversification of several new species from a common ancestor
- C. The extinction of species due to environmental changes
- D. The genetic modification of a species over time

4. Which of the following are considered accessory pigments?

- A. Chlorophyll a only
- B. Chlorophyll b, c, carotenoids
- C. Only carotenoids
- D. Chloroplast pigments exclusively

5. How are linked genes typically represented in genetic notation?

- A. ABC
- B. Gn
- C. Gg
- D. GN

6. Which type of hormone can pass through the cell membrane most easily?

- A. Peptide hormones
- B. Amino acid hormones
- C. Lipid/steroid hormones
- D. Protein hormones

- 7. What are the products of the photolysis of water in light reactions?**
- A. Oxygen and glucose
 - B. Hydrogen ions and chlorophyll
 - C. Electrons, hydrogen ions, and oxygen
 - D. Carbon dioxide and ATP
- 8. Which of the following substances is NOT typically found in cell walls?**
- A. Hemicellulose
 - B. Pectin
 - C. Lignin
 - D. Cholesterol
- 9. What are the two types of nucleic acids found in biological organisms?**
- A. DNA and Protein
 - B. RNA and Lipids
 - C. DNA and RNA
 - D. RNA and Carbohydrates
- 10. How does the electron transport chain (ETC) primarily function in cellular respiration?**
- A. By releasing carbon dioxide
 - B. Through a series of oxidation-reduction reactions
 - C. By synthesizing glucose
 - D. Via the breakdown of fatty acids

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What is synapsis in meiosis?

- A. Separation of sister chromatids
- B. Pairing of homologous chromosomes during prophase I**
- C. Formation of the spindle apparatus
- D. Duplication of chromosomes before division

Synapsis is the process that occurs during prophase I of meiosis where homologous chromosomes pair up closely along their lengths. This pairing is crucial for genetic recombination, as it allows for crossing over to occur, leading to genetic diversity in the resulting gametes. During synapsis, proteins called synaptonemal complexes form between homologous chromosomes, which facilitates this close association and ensures proper alignment for recombination. The other options relate to different stages or processes in cell division. The separation of sister chromatids happens later in meiosis, specifically during anaphase II. The formation of the spindle apparatus is essential for chromosome movement during division, but it occurs after synapsis. Duplication of chromosomes refers to interphase, which precedes meiosis and is not directly connected to the pairing of homologous chromosomes. Thus, the correct understanding of synapsis firmly aligns with the pairing of homologous chromosomes during prophase I, making it an essential concept in understanding meiosis and genetic variation.

2. What are the male reproductive parts of a flower called?

- A. Pistil
- B. Stamen**
- C. Style
- D. Ovary

The male reproductive parts of a flower are referred to as the stamen. The stamen is composed of two main structures: the anther and the filament. The anther is where pollen is produced and stored, while the filament supports the anther and holds it in position to facilitate pollination. In contrast, the pistil is the female reproductive structure of the flower, which includes the ovary, style, and stigma. The style is a slender stalk that connects the stigma (where pollen lands) to the ovary (which contains the ovules). The ovary itself is part of the pistil that develops into the fruit after fertilization. Understanding these terms and their functions is essential for studying plant reproduction and the overall life cycle of flowering plants.

3. What is adaptive radiation?

- A. The adaptation of a species to a single environmental condition
- B. The diversification of several new species from a common ancestor**
- C. The extinction of species due to environmental changes
- D. The genetic modification of a species over time

Adaptive radiation refers to the process through which a single ancestral species rapidly diversifies into a variety of new forms, each adapted to different environments or ecological niches. This phenomenon typically occurs when organisms colonize new habitats or after significant environmental changes, such as after a mass extinction event, which creates new opportunities for survival and reproduction. In the context of adaptive radiation, the diversification from a common ancestor allows species to exploit various resources and adapt to varying environmental conditions, leading to increased biodiversity. A classic example of this can be observed in the finches of the Galápagos Islands, where different species evolved distinct beak shapes to utilize different food sources. The other options do not capture the essence of adaptive radiation. For instance, adaptation to a single environmental condition does not account for the diversification aspect. Extinction relates to the loss of species rather than the emergence of new ones, and general genetic modification over time does not specifically highlight the adaptive evolution of multiple new species from a shared ancestor. Thus, the form of evolution described in the correct answer embodies the key elements of adaptive radiation: common ancestry, diversification, and adaptation to various ecological niches.

4. Which of the following are considered accessory pigments?

- A. Chlorophyll a only
- B. Chlorophyll b, c, carotenoids**
- C. Only carotenoids
- D. Chloroplast pigments exclusively

The selection of chlorophyll b, c, and carotenoids as accessory pigments is accurate because these pigments play a crucial role in photosynthesis by assisting chlorophyll a in capturing light energy. Chlorophyll a is the primary pigment directly responsible for converting light energy into chemical energy during photosynthesis. However, it cannot absorb light in all wavelengths effectively. Accessory pigments, such as chlorophyll b and carotenoids (which include pigments like beta-carotene and xanthophylls), broaden the spectrum of light that can be used for photosynthesis. They absorb light wavelengths that chlorophyll a cannot, such as blue and green light, and transfer that energy to chlorophyll a. This capability allows plants to optimize light absorption in varying environmental conditions. Chlorophyll b is specifically found in green plants and green algae, while chlorophyll c is found in certain groups of algae. Carotenoids, on the other hand, are present in many plants and help in protecting the plant from damage caused by excessive light by dissipating extra energy as heat. In contrast, other options like chlorophyll a alone or chloroplast pigments exclusively do not encompass the full range of pigments involved in light absorption and energy transfer during photosynthesis. Likewise, stating that only caroteno

5. How are linked genes typically represented in genetic notation?

- A. ABC
- B. Gn
- C. Gg
- D. GN**

Linked genes are typically represented in genetic notation using uppercase letters to signify dominant alleles and lowercase letters for recessive alleles, with the convention often reflecting their combinations and interactions. The correct notation reflects pairs of alleles from linked genes rather than standalone or mixed representations. The notation 'GN' accurately represents linked genes by indicating that both genes are located close together on the same chromosome. This representation suggests that there is a specific dominant allele (G) and a specific dominant allele (N) that are inherited together more frequently than if they were independently assorted. This is critical in genetic mapping and understanding inheritance patterns, particularly in the context of dihybrid crosses. The other options do not consistently reflect the representation of linked genes as they either fail to denote two different genes together correctly or do not indicate whether the alleles are dominant or recessive. This specific way of denoting linked genes helps researchers and geneticists communicate the inheritance patterns that arise from linked alleles, making option 'GN' the most appropriate choice in this scenario.

6. Which type of hormone can pass through the cell membrane most easily?

- A. Peptide hormones
- B. Amino acid hormones
- C. Lipid/steroid hormones**
- D. Protein hormones

Lipid or steroid hormones can pass through the cell membrane most easily due to their chemical structure. These hormones are hydrophobic, which allows them to dissolve in the phospholipid bilayer of the cell membrane without the need for special transport mechanisms. Once inside the cell, they can bind to intracellular receptors and influence gene expression directly. In contrast, peptide hormones, amino acid hormones, and protein hormones are generally hydrophilic and cannot readily penetrate the lipid bilayer of the cell membrane. They typically require specific receptors on the cell surface to exert their effects, triggering a cascade of cellular responses without entering the cell itself. This distinction is crucial in understanding how different types of hormones interact with target cells and the mechanisms of hormonal signaling.

7. What are the products of the photolysis of water in light reactions?

- A. Oxygen and glucose
- B. Hydrogen ions and chlorophyll
- C. Electrons, hydrogen ions, and oxygen**
- D. Carbon dioxide and ATP

The process of photolysis of water occurs during the light-dependent reactions of photosynthesis, specifically in the thylakoid membranes of chloroplasts. When water molecules are split (or photolyzed) by the energy absorbed from sunlight, several key products are generated. The correct answer indicates that the products of this reaction are electrons, hydrogen ions, and oxygen. When water is split, it releases free electrons that help replenish the electron transport chain within the chloroplasts. The separation of the hydrogen atoms from the water molecule results in the release of hydrogen ions (protons) into the thylakoid lumen, contributing to the proton gradient that is crucial for ATP synthesis. Additionally, the photolysis of water releases oxygen as a byproduct, which is what plants ultimately expel into the atmosphere. This oxygen release is one of the vital contributions of plants to Earth's atmosphere and supports aerobic life forms. In contrast to other options, glucose production is not directly a result of water photolysis but rather a consequence of the Calvin cycle, which occurs later in the process of photosynthesis. Chlorophyll does not become a product of photolysis; instead, it plays a role in capturing light energy. Lastly, carbon dioxide and ATP are

8. Which of the following substances is NOT typically found in cell walls?

- A. Hemicellulose
- B. Pectin
- C. Lignin
- D. Cholesterol**

Cholesterol is not typically found in cell walls, which is why it is the correct answer. Cell walls are primarily composed of polysaccharides like cellulose, hemicellulose, and pectin, along with other structural components such as lignin in some plant tissues. Cholesterol, on the other hand, is a type of lipid mainly found in biological membranes, particularly in animal cells, where it plays a critical role in membrane fluidity and structure. Its presence is associated with cell membranes rather than cell walls, which serve primarily for support and protection. This distinction in functions and structures is fundamental in understanding cell biology and the composition of different cellular components.

9. What are the two types of nucleic acids found in biological organisms?

- A. DNA and Protein
- B. RNA and Lipids
- C. DNA and RNA**
- D. RNA and Carbohydrates

The two types of nucleic acids found in biological organisms are DNA and RNA. DNA, or deoxyribonucleic acid, serves as the genetic material in most organisms, providing the blueprint for development, functioning, growth, and reproduction. It is structured as a double helix and contains the genetic instructions used in the development and functioning of all known living organisms and many viruses. RNA, or ribonucleic acid, plays various roles in the cell, primarily in protein synthesis and as a messenger carrying instructions from DNA for controlling the synthesis of proteins. RNA is usually single-stranded and is involved in different forms, such as mRNA (messenger RNA), tRNA (transfer RNA), and rRNA (ribosomal RNA), each playing a crucial role in the process of translating genetic information into the proteins that govern cellular functions. In contrast, proteins, lipids, and carbohydrates are important macromolecules in cells but do not fall under the category of nucleic acids. Proteins are made from amino acids and are involved in a wide range of functions including catalysis, structure, and signaling. Lipids serve mainly as structural components and energy storage molecules. Carbohydrates are primarily energy sources and play roles in cell recognition and structure.

10. How does the electron transport chain (ETC) primarily function in cellular respiration?

- A. By releasing carbon dioxide
- B. Through a series of oxidation-reduction reactions**
- C. By synthesizing glucose
- D. Via the breakdown of fatty acids

The electron transport chain (ETC) primarily functions in cellular respiration through a series of oxidation-reduction reactions, where electrons are transferred from electron donors to electron acceptors. This chain is located in the inner mitochondrial membrane and plays a crucial role in oxidative phosphorylation, a process that generates adenosine triphosphate (ATP), the primary energy currency of the cell. In the ETC, electrons derived from nutrients, such as glucose, are transferred through a series of protein complexes and electron carriers. As electrons move through these complexes, they release energy, which is used to pump protons (H⁺ ions) across the mitochondrial membrane, creating an electrochemical gradient. This gradient is essential for ATP production, as protons flow back into the mitochondrial matrix through ATP synthase, driving the conversion of adenosine diphosphate (ADP) and inorganic phosphate into ATP. Therefore, the primary function of the ETC is to harness energy from electron transfer to produce ATP, highlighting the critical role that oxidation-reduction reactions play in cellular respiration.

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://praxis2biology5235.examzify.com>

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

SAMPLE