

AC-HPAT BIOLOGY PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE

<https://achpatbiology.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	15

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 the primary function of the pancreas in the human body?**
 - A. Producing digestive enzymes
 - B. Regulating blood glucose levels
 - C. Filtering blood in the renal system
 - D. Storing bile for fat digestion
- 2. Which process is characterized by the physical breaking down of food into smaller pieces?**
 - A. Chemical digestion
 - B. Facilitated transport
 - C. Mechanical digestion
 - D. Absorption
- 3. What role do vacuoles play in mature plant cells?**
 - A. Protein synthesis and transport
 - B. Energy production through ATP synthesis
 - C. Structural support, storage, and waste disposal
 - D. Digestion of macromolecules
- 4. Type 1 diabetes is characterized by the pancreas' inability to do what?**
 - A. Produce enough digestive enzymes
 - B. Eliminate waste efficiently
 - C. Produce sufficient insulin
 - D. Regulate blood pressure
- 5. What is the function of the epiglottis?**
 - A. Regulate bile release into the small intestine
 - B. Direct air into the lungs and food into the gastrointestinal tract
 - C. Break down food particles in the stomach
 - D. Facilitate gas exchange in the alveoli
- 6. Which of the following is NOT a type of macromolecule?**
 - A. Proteins
 - B. Nucleic acids
 - C. Glucose
 - D. Lipids

7. What is the function of the bladder in the urinary system?

- A. To filter blood
- B. To store urine before excretion
- C. To absorb nutrients
- D. To produce hormones

8. What is a carcinogen?

- A. A substance that promotes cellular repair
- B. A substance that can cause cancer
- C. A chemical that enhances photosynthesis
- D. A substance that aids in digestion

9. Which of the following best describes cytokinesis?

- A. The splitting of the cell's cytoplasm
- B. The replication of DNA
- C. The formation of a spindle apparatus
- D. The separation of homologous chromosomes

10. Which chambers of the heart receive blood from the venae cavae?

- A. Left atrium
- B. Right atrium
- C. Left ventricle
- D. Right ventricle

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What is the primary function of the pancreas in the human body?

- A. Producing digestive enzymes
- B. Regulating blood glucose levels**
- C. Filtering blood in the renal system
- D. Storing bile for fat digestion

The primary function of the pancreas in the human body encompasses both the production of digestive enzymes and the regulation of blood glucose levels, but its primary role in the context of hormonal function is related to blood glucose regulation. The pancreas plays a critical role in the endocrine system by producing hormones such as insulin and glucagon. Insulin is released when blood glucose levels rise, such as after eating, facilitating the uptake of glucose by cells for energy or storage as glycogen in the liver and muscle tissue. Conversely, glucagon is secreted when blood glucose levels drop, prompting the liver to release stored glucose into the bloodstream, thus maintaining homeostasis. Therefore, while the pancreas also produces digestive enzymes that aid in the digestion of food in the gastrointestinal tract, its essential role in maintaining stable blood glucose levels is crucial for overall metabolic health. This function is particularly significant in the context of diabetes management, where the regulation of blood sugar is critically impaired.

2. Which process is characterized by the physical breaking down of food into smaller pieces?

- A. Chemical digestion
- B. Facilitated transport
- C. Mechanical digestion**
- D. Absorption

The process characterized by the physical breaking down of food into smaller pieces is known as mechanical digestion. This stage involves the physical actions of chewing and grinding food into smaller fragments, which increases its surface area and makes it easier for enzymes to act on it during the subsequent chemical digestion phase. Mechanical digestion typically occurs in the mouth during chewing, where teeth break down food, and continues in the stomach, where muscular contractions further mix and break down food into a semi-liquid form called chyme. This preparation is essential for effective absorption of nutrients later in the digestive process. Understanding this distinction emphasizes the importance of mechanical digestion as a precursor to the more complex biochemical processes involved in digestion. That aids in grasping how nutrients effectively enter the body after food is adequately transformed physically.

3. What role do vacuoles play in mature plant cells?

- A. Protein synthesis and transport
- B. Energy production through ATP synthesis
- C. Structural support, storage, and waste disposal**
- D. Digestion of macromolecules

Vacuoles in mature plant cells serve several essential functions that are crucial for the cell's overall health and functionality. One of the primary roles of vacuoles is to provide structural support. They help maintain turgor pressure against the cell wall, which is vital for keeping the plant upright and maintaining its shape. When vacuoles are filled with water, they exert pressure on the surrounding cell walls, contributing to the rigidity of plant tissues. Additionally, vacuoles are involved in storage functions. They can hold various substances, including nutrients, ions, and metabolic waste products. For example, vacuoles often store sugars, salts, and pigments, which can be important for the plant's physiological processes and for attracting pollinators. Furthermore, vacuoles play a key role in waste disposal. They can isolate toxic byproducts of metabolism, preventing them from interfering with other cellular processes and allowing the plant to manage waste effectively. Therefore, the correct answer encapsulates the multiple roles of vacuoles in mature plant cells by highlighting their importance in providing structural support, facilitating storage, and managing waste disposal.

4. Type 1 diabetes is characterized by the pancreas' inability to do what?

- A. Produce enough digestive enzymes
- B. Eliminate waste efficiently
- C. Produce sufficient insulin**
- D. Regulate blood pressure

In Type 1 diabetes, the pancreas is unable to produce sufficient insulin due to the autoimmune destruction of insulin-producing beta cells in the islets of Langerhans. Insulin is crucial for regulating blood glucose levels; it facilitates the uptake of glucose by cells for energy or storage. When insulin production is inadequate, glucose accumulates in the bloodstream, leading to the hyperglycemic symptoms associated with diabetes. While the pancreas also produces digestive enzymes and plays a role in waste elimination and metabolic regulation, these functions are not directly affected in Type 1 diabetes. The hallmark issue is the lack of insulin production, which directly compromises glucose metabolism and leads to the complications associated with this disease.

5. What is the function of the epiglottis?

- A. Regulate bile release into the small intestine
- B. Direct air into the lungs and food into the gastrointestinal tract**
- C. Break down food particles in the stomach
- D. Facilitate gas exchange in the alveoli

The epiglottis serves a vital role in the body by acting as a flap of cartilage located at the base of the tongue, which helps to direct the flow of air and food. During the act of swallowing, the epiglottis closes over the trachea (the windpipe) to prevent food and liquids from entering the airway and directs them into the esophagus instead. This mechanism is crucial for protecting the respiratory tract from aspiration and ensuring that food passes safely into the gastrointestinal tract. Its proper function is essential for normal swallowing and respiration, highlighting its importance in maintaining safe and efficient digestive and respiratory processes.

6. Which of the following is NOT a type of macromolecule?

- A. Proteins
- B. Nucleic acids
- C. Glucose**
- D. Lipids

Glucose is not considered a type of macromolecule; it is classified as a simple sugar or monosaccharide. Macromolecules are typically large and complex molecules made up of smaller units called monomers. The four main types of macromolecules in biological systems are proteins, nucleic acids (like DNA and RNA), carbohydrates (where glucose falls as a building block), and lipids. Proteins are composed of amino acids linked by peptide bonds and serve various functions, including as enzymes and structural components. Nucleic acids consist of nucleotide monomers and are essential for storing and transmitting genetic information. Lipids are hydrophobic molecules that play roles in energy storage, membrane structure, and signaling. In contrast, glucose, as a monosaccharide, is a small molecule that serves as an energy source and building block for larger carbohydrates, such as starch and glycogen. Since glucose does not meet the criteria of being a large, complex macromolecule, it is appropriately identified as the answer in this question.

7. What is the function of the bladder in the urinary system?

- A. To filter blood
- B. To store urine before excretion**
- C. To absorb nutrients
- D. To produce hormones

The bladder's primary function is to store urine produced by the kidneys before it is excreted from the body. This muscular sac can expand as it fills with urine, allowing for significant storage capacity. When the bladder reaches a certain volume, nerve signals prompt the sensation of urgency and the need to urinate, leading to the voluntary contraction of the bladder muscles. This mechanism plays a crucial role in regulating fluid balance and waste elimination in the body. Other functions mentioned in the options, such as filtering blood, absorbing nutrients, and producing hormones, are carried out by different organs within the urinary or related systems. The kidneys, for instance, filter blood to create urine, while nutrient absorption occurs in the intestines, and hormone production is a primary function of various glands throughout the body.

8. What is a carcinogen?

- A. A substance that promotes cellular repair
- B. A substance that can cause cancer**
- C. A chemical that enhances photosynthesis
- D. A substance that aids in digestion

A carcinogen is defined as a substance that can lead to the development of cancer in living tissue. These substances alter cellular metabolism or damage the genetic material within cells, which can result in uncontrolled cell growth, ultimately leading to tumor formation. Knowing this, it is clear that the correct answer accurately captures the nature and role of carcinogens in biological systems. The other options focus on unrelated biological functions; for example, promoting cellular repair refers to factors that help the body recover from damage, while enhancing photosynthesis pertains to processes in plants that use sunlight to convert carbon dioxide and water into glucose and oxygen. Aiding in digestion involves substances that help break down food into nutrients but does not pertain to cancer risk. Thus, the specificity of a carcinogen as a cancer-causing agent makes the second choice the only appropriate selection.

9. Which of the following best describes cytokinesis?

- A. The splitting of the cell's cytoplasm**
- B. The replication of DNA
- C. The formation of a spindle apparatus
- D. The separation of homologous chromosomes

Cytokinesis is best described as the splitting of the cell's cytoplasm. This process occurs at the end of cell division, specifically after the completion of mitosis or meiosis, and is essential for creating two distinct daughter cells. During cytokinesis, the cytoplasm, organelles, and cell membrane are divided, enabling the distribution of cellular components to each of the newly formed cells. In an animal cell, this often occurs through a process called cleavage furrow formation, where the cell membrane is pinched inward. In plant cells, a cell plate forms down the middle of the cell, leading to the development of a new cell wall. This ensures that each daughter cell receives the necessary components to survive and function independently. The other processes described in the other choices pertain to different aspects of cell division. DNA replication involves copying the genetic material and happens during the S phase of interphase, not during cytokinesis. The formation of a spindle apparatus occurs during prophase and is crucial for separating chromosomes but is not itself related to the division of the cytoplasm. The separation of homologous chromosomes happens during meiosis, specifically in anaphase I, and refers to the pulling apart of chromosome pairs, not the division of the cell itself

10. Which chambers of the heart receive blood from the venae cavae?

- A. Left atrium
- B. Right atrium**
- C. Left ventricle
- D. Right ventricle

The right atrium is responsible for receiving deoxygenated blood from the body through the venae cavae, which are the superior and inferior venae cavae. This blood returns from the systemic circulation, bringing carbon dioxide and other waste products that need to be expelled from the body. Once the right atrium fills with blood, it then pumps this blood into the right ventricle, which subsequently sends it to the lungs for oxygenation. In contrast, other chambers like the left atrium receive oxygenated blood from the lungs, while the left ventricle pumps this oxygen-rich blood out to the body. The right ventricle serves to pump blood to the lungs but does not receive blood directly from the venae cavae. Thus, the right atrium plays a crucial role in the heart's function by acting as the receiving chamber for systemic blood returning to the heart.

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://achpatbiology.examzify.com>

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

SAMPLE