

T LEVEL SCIENCE CORE B BIOLOGY PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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

<https://tlevelsciencecorebbio.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 a key characteristic of bacterial pathogens?**
 - A. They are all harmful to human health
 - B. They can live in extreme conditions
 - C. They have a complex cellular structure
 - D. They can replicate inside the body
- 2. What is the main role of rough endoplasmic reticulum?**
 - A. Lipid synthesis and storage
 - B. Protein synthesis and packaging
 - C. Photosynthesis
 - D. Storage of nutrients
- 3. Which cellular component is primarily associated with photosynthesis?**
 - A. Chloroplasts
 - B. Mitochondria
 - C. Endoplasmic reticulum
 - D. Cytoplasm
- 4. What role does haemoglobin play in red blood cells?**
 - A. To digest pathogens
 - B. To detoxify waste
 - C. To bind and transport oxygen
 - D. To convert nutrients into energy
- 5. What is a primary factor that can lead to the spread of infectious diseases?**
 - A. Strong healthcare infrastructure
 - B. Wide access to health information
 - C. Dense populations
 - D. Increased sanitation
- 6. What is a primary benefit of using transmission electron microscopes?**
 - A. Generates 3D images of specimens
 - B. Displays lower resolution images
 - C. Reveals internal structures and provides a 2D view
 - D. Only useful for external surfaces of cells

7. Which of the following is an example of a polysaccharide?

- A. Amino acids
- B. Triglycerides
- C. Glycogen
- D. Fatty acids

8. What is the function of ribosomes in prokaryotes?

- A. DNA replication
- B. Protein synthesis
- C. Energy production
- D. Cell signaling

9. Where does meiosis occur in the body?

- A. Only in somatic cells
- B. Only in reproductive cells
- C. In all types of cells
- D. In muscle cells

10. Which of the following is a characteristic of triglycerides?

- A. They are a type of steroid
- B. They are composed of three fatty acids and glycerol
- C. They are water-soluble
- D. They do not provide energy

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What is a key characteristic of bacterial pathogens?

- A. They are all harmful to human health
- B. They can live in extreme conditions
- C. They have a complex cellular structure
- D. They can replicate inside the body**

The key characteristic that identifies bacterial pathogens is their ability to replicate inside the body of a host. This replication allows them to increase their numbers rapidly, which can lead to infection and disease. Bacterial pathogens utilize the host's resources to sustain their growth, often resulting in the disruption of normal physiological processes and the elicitation of an immune response. This capacity for replication within a host is crucial for their pathogenesis, as it enables them to establish infections, spread through tissues, and overcome host defenses. Understanding this characteristic is vital for developing treatments and prevention strategies aimed at bacterial infections. In contrast, not all bacteria are harmful to human health, as there are many beneficial strains. While some bacteria can indeed survive in extreme conditions, this attribute is not exclusive to pathogens and pertains to many types of bacteria. Additionally, the cellular structure of bacteria is generally simpler than that of eukaryotic cells, which makes the assertion of a complex cellular structure incorrect in this context.

2. What is the main role of rough endoplasmic reticulum?

- A. Lipid synthesis and storage
- B. Protein synthesis and packaging**
- C. Photosynthesis
- D. Storage of nutrients

The rough endoplasmic reticulum (RER) primarily functions in the synthesis and packaging of proteins. It is characterized by the presence of ribosomes on its cytoplasmic surface, which gives it a "rough" appearance. These ribosomes are the sites of protein translation, where messenger RNA (mRNA) is decoded to synthesize proteins based on the genetic code. Once proteins are synthesized in the RER, they undergo initial modifications and are then packaged into vesicles for transport to other parts of the cell, such as the Golgi apparatus or to the cell membrane for secretion. This process is crucial for the production of proteins that are either secreted from the cell, incorporated into the cell membrane, or sent to lysosomes for various cellular functions. In contrast, the other options involve different cellular functions. Lipid synthesis and storage occur primarily in the smooth endoplasmic reticulum, while photosynthesis is a function of chloroplasts in plant cells. Storage of nutrients generally refers to functions related to vacuoles or other storage organelles, not the rough endoplasmic reticulum.

3. Which cellular component is primarily associated with photosynthesis?

- A. Chloroplasts**
- B. Mitochondria
- C. Endoplasmic reticulum
- D. Cytoplasm

Chloroplasts are the cellular components primarily associated with photosynthesis, a process that converts light energy into chemical energy in the form of glucose. These organelles contain chlorophyll, the green pigment that captures sunlight, and are specifically structured to facilitate the complex biochemical reactions involved in photosynthesis. Within chloroplasts, light-dependent reactions occur in the thylakoid membranes, where light energy is converted into ATP and NADPH, while the Calvin cycle operates in the stroma to synthesize glucose from carbon dioxide and water. The significance of chloroplasts in photosynthesis cannot be overstated, as they are the sites where both the light-focused chemical gathering and the subsequent production of glucose take place, making them essential for the energy supply in plants and, by extension, many other organisms that depend on plant matter for energy.

4. What role does haemoglobin play in red blood cells?

- A. To digest pathogens
- B. To detoxify waste
- C. To bind and transport oxygen**
- D. To convert nutrients into energy

Hemoglobin plays a crucial role in red blood cells by binding to oxygen in the lungs and transporting it throughout the body to tissues and organs. This protein is highly effective at picking up oxygen due to its unique structure, which allows it to bind to oxygen molecules under specific conditions found in the lungs. Once it reaches tissues where the oxygen concentration is lower, hemoglobin releases the oxygen, making it available for cellular respiration, a process essential for generating energy within cells. This transport mechanism is vital because oxygen is required for the production of ATP (adenosine triphosphate), the energy currency of the cell, which powers various biological functions. The ability of hemoglobin to carry oxygen efficiently is what makes it indispensable for maintaining the metabolic activities necessary for life.

5. What is a primary factor that can lead to the spread of infectious diseases?

- A. Strong healthcare infrastructure
- B. Wide access to health information
- C. Dense populations**
- D. Increased sanitation

Dense populations play a significant role in the spread of infectious diseases because they facilitate closer and more frequent contact among individuals, which increases the likelihood of transmission. In densely populated areas, the close proximity of people can lead to rapid spread, particularly for diseases that are airborne or transmitted through direct contact. When individuals live or work in crowded environments, such as urban centers, schools, or crowded living conditions, pathogens can easily move from one person to another, often resulting in outbreaks. In contrast, strong healthcare infrastructure, wide access to health information, and increased sanitation are all factors that typically contribute to controlling the spread of infectious diseases. A robust healthcare system provides resources for diagnosis, treatment, and preventive care, while access to health information empowers individuals to take protective measures. Increased sanitation reduces the opportunities for pathogens to spread by improving hygiene and reducing contamination. Consequently, while these factors are beneficial, they do not lead to the spread of infectious diseases the same way that dense populations do.

6. What is a primary benefit of using transmission electron microscopes?

- A. Generates 3D images of specimens
- B. Displays lower resolution images
- C. Reveals internal structures and provides a 2D view**
- D. Only useful for external surfaces of cells

A primary benefit of using transmission electron microscopes (TEM) is their ability to reveal internal structures of specimens and provide a detailed 2D view. TEM works by transmitting a beam of electrons through a very thin sample, allowing the visualization of fine details within the cell or tissue. This capability is crucial for studying cellular organelles, complex structures, and even molecular arrangements, which other types of microscopy may not adequately resolve. The resolution offered by a TEM is much higher than that of light microscopes, enabling scientists to see structures at the nanometer scale. Consequently, this technique is heavily utilized in fields such as cell biology and materials science to enhance our understanding of intricate biological systems and material properties. The generation of a 2D view facilitates the examination of these internal details, providing valuable insights into the architecture and function of cells and tissues.

7. Which of the following is an example of a polysaccharide?

- A. Amino acids
- B. Triglycerides
- C. Glycogen**
- D. Fatty acids

Polysaccharides are complex carbohydrates that are made up of long chains of sugar units, specifically glucose molecules. Glycogen is a prime example of a polysaccharide as it serves as an energy storage form in animals. It consists of numerous glucose molecules linked together, allowing for quick mobilization of energy when needed. In the context of other choices, amino acids represent the building blocks of proteins and do not fall into the category of carbohydrates. Triglycerides are composed of glycerol and fatty acids, serving as a form of fat storage but are not carbohydrates. Fatty acids themselves are components of lipids. Thus, glycogen is unique among the choices as it relates directly to carbohydrate storage and energy use in living organisms.

8. What is the function of ribosomes in prokaryotes?

- A. DNA replication
- B. Protein synthesis**
- C. Energy production
- D. Cell signaling

Ribosomes serve a crucial function in prokaryotes by facilitating protein synthesis. This process involves translating the genetic information encoded in messenger RNA (mRNA) into polypeptide chains, which then fold into functional proteins. In prokaryotic cells, ribosomes are composed of ribosomal RNA and proteins, forming two subunits that come together during translation. The ribosomes read the sequence of nucleotides in mRNA, with transfer RNA (tRNA) bringing the appropriate amino acids as dictated by that sequence. This interaction ultimately leads to the formation of proteins, which are essential for a myriad of cellular processes, including enzyme activity, structural roles, and regulatory functions. This primary role of ribosomes in synthesizing proteins underlines their significance in maintaining the overall metabolic activities and life functions of prokaryotic organisms.

9. Where does meiosis occur in the body?

- A. Only in somatic cells
- B. Only in reproductive cells**
- C. In all types of cells
- D. In muscle cells

Meiosis is a specialized type of cell division that is crucial for sexual reproduction. It occurs exclusively in reproductive cells, which are the cells that give rise to gametes—sperm in males and eggs (ova) in females. This process reduces the chromosome number by half, resulting in haploid cells that ensure genetic diversity when two gametes unite during fertilization. In contrast, somatic cells, which make up the body's tissues and organs, undergo mitosis rather than meiosis. Mitosis is responsible for growth, repair, and asexual reproduction by producing identical diploid cells. Therefore, meiosis is confined to germ cells in the reproductive organs and does not take place in somatic or muscle cells, which are involved in different functions and types of cell division. This specificity is why understanding the role of meiosis within reproductive contexts is essential in biology.

10. Which of the following is a characteristic of triglycerides?

- A. They are a type of steroid
- B. They are composed of three fatty acids and glycerol**
- C. They are water-soluble
- D. They do not provide energy

Triglycerides are indeed characterized by being composed of three fatty acids attached to a glycerol molecule. This structure is fundamental to their classification as a type of lipid. The glycerol serves as a backbone, while the three fatty acids contribute to the molecule's nonpolar nature, which is crucial for its functions within biological systems. This configuration allows triglycerides to store energy efficiently; they serve as a concentrated source of energy that can be metabolized by organisms. The other options highlight misconceptions about triglycerides, as they do not fall under the category of steroids, are not water-soluble due to their hydrophobic character, and they function primarily as energy stores rather than not providing energy at all. Understanding the unique composition and properties of triglycerides is essential for grasping their roles in biology and metabolism.

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://tlevelsciencecorebbio.examzify.com>

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

SAMPLE