Leaving Certificate Biology 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

1. What process converts light energy into chemical energy in plants using carbon dioxide and water?

A. Photosynthesis

B. Aerobic

C. Substrate

D. Optimum

2. The portion of DNA that does not code for proteins is commonly called:

A. Coding DNA

B. Exon DNA

C. Pseudogene DNA

D. Junk DNA

3. Which process returns nitrogen to the atmosphere by converting nitrates into nitrogen gas?

A. Nitrification

B. Nitrogen fixation

C. Ammonification

D. Denitrification

4. Which enzyme digests proteins?

A. Amylase

B. Lipase

C. Nuclease

D. Protease

5. A carbohydrate made up of two sugar units is a ...

A. Disaccharide

B. Monosaccharide

C. Polysaccharide

D. Oligosaccharide

6. Male part of the flower consists of filament and anther

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

7. Hollow ball of cells

- **A. Zygote**
- **B. Morula**
- **C. Embryo**
- **D. Blastocyst**

8. The triploid tissue that nourishes the developing embryo is called

- **A. Zygote**
- **B. Seed coat**
- **C. Endosperm**
- **D. Embryo**

9. Which term refers to the animals of a region?

- **A. Flora**
- **B. Microflora**
- **C. Fauna**
- **D. Vegetation**

10. A struggle between organisms where one organism gets all the resource is called

- **A. Contest competition**
- **B. Competition**
- **C. Community**
- **D. Adaptations**

Answers

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

Explanations

1. What process converts light energy into chemical energy in plants using carbon dioxide and water?

A. Photosynthesis

B. Aerobic

C. Substrate

D. Optimum

Photosynthesis is the process by which plants capture light energy and store it as chemical energy in sugars. Chlorophyll in chloroplasts absorbs light and powers the light-dependent reactions to make ATP and NADPH, which then drive the Calvin cycle to fix carbon dioxide into glucose. Water is split in the light reactions to provide electrons and release oxygen as a by-product. In short, light energy is transformed into chemical energy stored in carbohydrate bonds, using carbon dioxide and water. Overall, 6 CO_2 + 6 H_2O + light energy → $C_6H_{12}O_6$ + 6 O_2. This isn't aerobic respiration, nor a substrate or an arbitrary "optimum" term; it specifically describes how light energy becomes chemical energy in plants.

2. The portion of DNA that does not code for proteins is commonly called:

A. Coding DNA

B. Exon DNA

C. Pseudogene DNA

D. Junk DNA

The main idea is that much of the genome does not carry instructions to make proteins. This noncoding portion was long described as "junk DNA" because its function wasn't clear. Even though we now know many noncoding regions have important regulatory roles or produce noncoding RNA, the everyday label for the noncoding part of the genome is still junk DNA. The other options describe specific types of sequences that either code for proteins (coding DNA and exons) or are nonfunctional remnants of genes (pseudogenes) rather than the broad noncoding portion. So junk DNA is the best-fitting term.

3. Which process returns nitrogen to the atmosphere by converting nitrates into nitrogen gas?

A. Nitrification

B. Nitrogen fixation

C. Ammonification

D. Denitrification

In the nitrogen cycle, returning fixed nitrogen to the atmosphere happens through denitrification. This process occurs in low-oxygen environments, like waterlogged soils or sediments, where certain bacteria use nitrate as the final electron acceptor in their respiration. They reduce nitrate (NO_3^-) step by step, ultimately producing nitrogen gas (N_2) that escapes into the air. This is what closes the loop by moving nitrogen back to the atmospheric reservoir. Other steps in the cycle—nitrogen fixation turning N_2 into usable forms like ammonia, nitrification converting ammonia to nitrate, and ammonification releasing ammonium from organic nitrogen—change the form of nitrogen but do not return it to the atmosphere.

4. Which enzyme digests proteins?

A. Amylase

B. Lipase

C. Nuclease

D. Protease

Proteins are polymers held together by peptide bonds, so digestion of proteins requires an enzyme that cleaves those bonds. That enzyme is a protease, which catalyzes hydrolysis of peptide bonds to produce smaller peptides and amino acids. In the body, proteases like pepsin in the stomach and pancreatic proteases in the small intestine do this job. By contrast, amylase digests starch (carbohydrates), lipase digests fats, and nuclease digests nucleic acids, so only protease matches the digestion of proteins.

5. A carbohydrate made up of two sugar units is a ...

A. Disaccharide

B. Monosaccharide

C. Polysaccharide

D. Oligosaccharide

The main idea is classification of carbohydrates by how many sugar units they contain. When two sugar units come together, the resulting carbohydrate is a disaccharide. These form through a condensation reaction where a glycosidic bond links the two monosaccharides and water is released. Dissolve it back and you get the two original monosaccharides again via hydrolysis. This distinguishes two-unit sugars from the others: a monosaccharide is just one sugar unit, a polysaccharide is made of many units, and an oligosaccharide is a short chain of a few sugars, not specifically two. Examples of disaccharides include maltose, lactose, and sucrose.

6. Male part of the flower consists of filament and anther

A. Carpel

B. Pistil

C. Ovary

D. Stamen

The male reproductive part of a flower is the stamen. It is made up of two pieces: a filament, which is the slender stalk that positions the other part, and an anther, the sac at the tip where pollen grains form. In the anther, pollen sacs develop pollen through cell division, and when mature the anther releases pollen so it can be carried to the female part for fertilization. This is distinct from the female structure, which is the carpel (also called the pistil) that includes the stigma, style, and ovary, with ovules inside the ovary. So the statement describes the stamen, the male part.

7. Hollow ball of cells

A. Zygote

B. Morula

C. Embryo

D. Blastocyst

A hollow cavity develops inside the embryo during early development, creating a hollow ball of cells called the blastocyst. After fertilization, the zygote divides to form a solid ball of cells called the morula. Later, fluid enters and forms a cavity (the blastocoel), turning the morula into the blastocyst. The blastocyst has an outer layer of cells (trophoblast) and an inner cell mass that will become the embryo, with the cavity inside. Therefore, the hollow ball of cells describes the blastocyst best. The zygote is a single cell, the morula is still solid, and the embryo is a later stage.

8. The triploid tissue that nourishes the developing embryo is called

A. Zygote

B. Seed coat

C. Endosperm

D. Embryo

In flowering plants, the nutritive tissue inside the seed that nourishes the developing embryo is the endosperm. It forms through double fertilization: one sperm fertilizes the egg to produce the diploid zygote, while another sperm fuses with the two polar nuclei to form triploid endosperm. This 3n tissue stores nutrients such as starch, oils, and proteins to feed the embryo during germination. The zygote itself grows into the embryo, the young plant. The seed coat is a protective outer layer derived from maternal tissue, not a nutrient source, and the embryo is the developing plant rather than the nutrient store.

9. Which term refers to the animals of a region?

A. Flora

B. Microflora

C. Fauna

D. Vegetation

In ecology, the living things in a region are categorized into plant life and animal life. The animals of a region are referred to as fauna. Flora denotes the plant life, and vegetation is a broader term for plant life and cover in a landscape. Microflora specifically means microscopic organisms like bacteria and fungi, not animals. So for a question about animals, fauna is the correct phrase because it directly names the animal component of a region's biodiversity.

10. A struggle between organisms where one organism gets all the resource is called

A. Contest competition

B. Competition

C. Community

D. Adaptations

In ecology, competition for resources can occur in different ways. When one organism actively interferes with others or defends a resource so that it ends up taking all of it, that is contest competition. The crucial point is the direct interaction that prevents others from accessing the resource, creating a clear winner. This is different from scramble competition, where individuals share or deplete a resource without direct interference, so no single organism monopolizes it. So the scenario described—one organism getting all of the resource—fits contest competition because it involves a direct struggle to monopolize the resource. The other options don't fit as well: general competition doesn't specify how the resource is being monopolized; a community refers to all organisms in a habitat; and adaptations are traits that help organisms survive, not the act of competing for a resource.

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://leavingcertbiology.examzify.com

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