Ontario Grade 11 University Biology Practice Text (Sample)

Study Guide

Everything you need from our exam experts!

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**

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 type of diversity is characterized by the variety of structural forms in living things?

A. Genetic diversity

B. Functional diversity

C. Structural diversity

D. Ecological diversity

2. What is the term for a haploid cell?

A. Diploid

B. Gamete

C. Zygote

D. Chromatid

3. What is a peptic ulcer?

A. An infection in the intestines

B. An open sore in the lining of the stomach or duodenum

C. A type of digestive disorder

D. A condition caused by excess bile production

4. Which type of diversity describes the variety of different ecosystems in an area?

A. Genetic diversity

B. Species diversity

C. Population diversity

D. Ecosystem diversity

5. What is digestion primarily concerned with?

A. Building cellular structures

B. Breaking down food and absorbing nutrients

C. Regulating blood sugar levels

D. Transporting oxygen throughout the body

6. What is the term for the process by which characteristics of a population change over time?

A. Natural Selection

B. Gene Flow

C. Selective Pressure

D. Genetic Drift

7. What is the body's primary response to an infection?

A. Release of insulin

B. Increase in blood pressure

C. Activation of the immune system

D. Production of bile

8. Which type of trait is influenced by genes located on the X or Y chromosome?

A. Polygenic Trait

B. Sex-linked Trait

C. Autosomal Trait

D. Epigenetic Trait

9. What substance is primarily involved in the breakdown of food proteins?

A. Gastric acid

B. Pepsin

C. Amylase

D. Trypsin

10. What is referred to as a chromosome that is not a sex chromosome?

A. Autosome

B. Sex chromosome

C. Gamete

D. Chromatid

Answers

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

Explanations

1. What type of diversity is characterized by the variety of structural forms in living things?

A. Genetic diversity

B. Functional diversity

C. Structural diversity

D. Ecological diversity

The correct answer is structural diversity. This type of diversity refers specifically to the range of different structural forms and physical characteristics found among living organisms. It encompasses variations in size, shape, and the overall architecture of organisms, including how they are built and how those structures enable them to interact with their environment. Structural diversity is important because it can influence an organism's adaptability, survival, and ecological roles. For instance, different plant species may have various leaf shapes or root structures that allow them to thrive in diverse habitats. This physical variety can promote resilience within ecosystems, supporting a wider range of species interactions and ecological functions. The other types of diversity mentioned do not focus on structural forms. Genetic diversity refers to the variation in genes within a population, functional diversity relates to the different roles that species play within an ecosystem, and ecological diversity describes the variety of habitats, ecosystems, and ecological processes. While all these forms of diversity are crucial for the health of ecosystems, they do not specifically highlight the physical and structural variations that characterize living organisms.

2. What is the term for a haploid cell?

A. Diploid

B. Gamete

C. Zygote

D. Chromatid

A haploid cell is defined as a cell that contains only one complete set of chromosomes. In organisms that reproduce sexually, haploid cells are produced during meiosis and are crucial for reproduction, as they combine during fertilization to form a diploid zygote. The most common examples of haploid cells are gametes, which include sperm and egg cells in animals and pollen and ovules in plants. The other terms provided do not accurately describe a haploid cell. Diploid cells contain two complete sets of chromosomes, one from each parent. A zygote is the result of the fusion of two gametes, making it diploid. A chromatid is one half of a duplicated chromosome and doesn't refer to the overall ploidy of the organism. Therefore, the term that correctly identifies a haploid cell is gamete.

3. What is a peptic ulcer?

A. An infection in the intestines

B. An open sore in the lining of the stomach or duodenum

C. A type of digestive disorder

D. A condition caused by excess bile production

A peptic ulcer is specifically defined as an open sore that develops on the lining of the stomach or the duodenum, which is the first part of the small intestine. This condition arises when the protective mucous layer that normally guards these organs is damaged, often due to factors such as the bacteria Helicobacter pylori, prolonged use of nonsteroidal anti-inflammatory drugs (NSAIDs), excessive acid production, or other irritants. The presence of a sore can lead to symptoms such as abdominal pain, indigestion, and in some severe cases, bleeding. The other options do not correctly define a peptic ulcer. An infection in the intestines refers to different gastrointestinal conditions that do not specifically involve the stomach lining. A digestive disorder is a broad category that includes many types of issues, but does not pinpoint the specific nature of a peptic ulcer. Lastly, a condition caused by excess bile production pertains to issues related to bile and its effects on digestion, which is not the mechanism behind the development of a peptic ulcer.

4. Which type of diversity describes the variety of different ecosystems in an area?

A. Genetic diversity

B. Species diversity

C. Population diversity

D. Ecosystem diversity

The correct answer is ecosystem diversity. This term specifically refers to the variety and variability of ecosystems within a specific geographic area. It encompasses the different habitats, communities, and ecological processes present in an environment. Ecosystem diversity is crucial because it supports a wide range of biological species, including plants, animals, and microorganisms, all of which interact within these ecosystems. Genetic diversity pertains to the variety of genes within a particular species, emphasizing variations in traits that contribute to the adaptability and survival of that species. Species diversity, on the other hand, focuses on the number of different species and their relative abundance in a given area, highlighting the variety of life forms present. Population diversity refers to differences within a specific species populations, such as their genetic make-up and demographic characteristics. While all these forms of diversity are essential for the overall health and resilience of ecosystems, ecosystem diversity specifically addresses the range of different ecosystems themselves.

5. What is digestion primarily concerned with?

A. Building cellular structures

B. Breaking down food and absorbing nutrients

C. Regulating blood sugar levels

D. Transporting oxygen throughout the body

Digestion is primarily concerned with breaking down food and absorbing nutrients. This process begins in the mouth, where food is mechanically broken down by chewing and chemically broken down by enzymes in saliva. It continues in the stomach and small intestine, where enzymes and stomach acids further digest food into smaller molecules. Once the food is broken down into basic nutrients, such as amino acids, fatty acids, and simple sugars, these nutrients are absorbed through the walls of the intestines into the bloodstream. This absorption is crucial because it allows the body to utilize these nutrients for energy, growth, and repair, which are fundamental processes for maintaining health and supporting cellular functions. In contrast, building cellular structures, regulating blood sugar levels, and transporting oxygen are different physiological processes that rely on the outcomes of digestion but are not the primary function of the digestive system itself. Building cellular structures pertains more to metabolic processes, while blood sugar regulation involves the endocrine system, and oxygen transport is a function of the respiratory and circulatory systems.

6. What is the term for the process by which characteristics of a population change over time?

A. Natural Selection

B. Gene Flow

C. Selective Pressure

D. Genetic Drift

The term that defines the process by which characteristics of a population change over time is actually evolution, which is influenced by various mechanisms, including natural selection, genetic drift, and gene flow. The mechanism you mentioned as the answer, selective pressure, refers to environmental factors that influence which individuals in a population survive and reproduce. This is an important concept, as selective pressure can drive natural selection by favoring certain traits that confer advantages to individuals in specific environments. Natural selection is the process where organisms that are better adapted to their environment tend to survive and produce more offspring. Gene flow is the transfer of genetic material between separate populations, which can introduce new genetic variations. Genetic drift is the evolution of a population's traits due to chance events, particularly in small populations, leading to random changes in allele frequencies. While selective pressure is a significant factor affecting evolution, it is more an influence on the mechanism rather than the overarching process. The correct understanding and terminology about how populations change over time encompasses several interconnected processes that all contribute to the overall concept of evolution.

7. What is the body's primary response to an infection?

A. Release of insulin

B. Increase in blood pressure

C. Activation of the immune system

D. Production of bile

The body's primary response to an infection involves the activation of the immune system. When pathogens such as bacteria, viruses, or other harmful microorganisms invade the body, the immune system is mobilized to identify and eliminate these threats. This response includes the activation of various immune cells, such as white blood cells, which work to attack and destroy the pathogens. Additionally, the immune system may release signaling molecules, such as cytokines, to coordinate the overall response and recruit more immune cells to the site of infection. The immune response can also involve the production of antibodies, which specifically target and neutralize pathogens, and the activation of other defense mechanisms, including inflammation, which helps to contain and eliminate the infection. Overall, the primary goal of this response is to restore homeostasis and protect the body from further harm.

8. Which type of trait is influenced by genes located on the X or Y chromosome?

A. Polygenic Trait

B. Sex-linked Trait

C. Autosomal Trait

D. Epigenetic Trait

Sex-linked traits are specifically influenced by genes located on the X or Y chromosome. In humans and many other organisms, the sex chromosomes play a critical role in determining certain characteristics, particularly those associated with gender. For example, since males have one X and one Y chromosome, whereas females have two X chromosomes, traits that are linked to genes on these chromosomes will exhibit different patterns of inheritance based on a person's sex. Conditions such as hemophilia and color blindness are classic examples of sex-linked traits, as they are often carried on the X chromosome and primarily affect males. Since males have only one X chromosome, a single recessive allele on that chromosome will manifest as the trait, while females, having two X chromosomes, may require two copies of a recessive allele to show the same trait. This unique inheritance pattern highlights the significance of the sex chromosomes in determining specific traits.

9. What substance is primarily involved in the breakdown of food proteins?

A. Gastric acid

B. Pepsin

C. Amylase

D. Trypsin

The breakdown of food proteins is primarily facilitated by pepsin, which is an enzyme produced in the stomach. Pepsin is secreted in an inactive form known as pepsinogen and is activated by the acidic environment created by gastric acid in the stomach. Once activated, pepsin begins the process of enzymatic digestion by cleaving the peptide bonds in proteins, breaking them down into smaller peptides. While gastric acid plays an important role in creating the right conditions for pepsin to function, it does not directly break down proteins itself. Similarly, trypsin, which is involved in protein digestion, is active in the small intestine and works on proteins that have already been partially digested by pepsin. Amylase, on the other hand, is involved in the digestion of carbohydrates, not proteins. This makes pepsin the primary enzyme responsible for the initial stages of protein breakdown in the digestive system.

10. What is referred to as a chromosome that is not a sex chromosome?

A. Autosome

B. Sex chromosome

C. Gamete

D. Chromatid

A chromosome that is not a sex chromosome is referred to as an autosome. In humans, autosomes are the 22 pairs of chromosomes that are not involved in determining an individual's sex; they carry the bulk of genetic information and traits. The remaining pair of chromosomes are the sex chromosomes, which determine an individual's sex. In most mammals, these are labeled as X and Y chromosomes. Understanding the distinction between autosomes and sex chromosomes is crucial in genetics. Autosomes play a role in various genetic traits, while sex chromosomes are central to sexual development and reproduction. Thus, identifying autosomes is key in exploring inheritance and genetic variation across populations, emphasizing how they differ from sex chromosomes.

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://ontariograde11bio.examzify.com

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