

HUMBER ADMISSIONS PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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

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1. What is cytokinesis?

- A. Phase where chromosomes are replicated
- B. Division of the cytoplasm during cell division
- C. Separation of sister chromatids
- D. Reformation of the nuclear envelope

2. What forms the outer boundary of cells and is selectively permeable?

- A. Plasma membrane
- B. Nuclear membrane
- C. Rough ER
- D. Golgi apparatus

3. What is the function of DNA in eukaryotic cells?

- A. To perform cellular respiration
- B. To provide structural support to the cell
- C. To store and transmit genetic information
- D. To facilitate protein synthesis

4. What is the main characteristic of phospholipids in biological membranes?

- A. A polar, hydrophilic head and a nonpolar, hydrophobic tail
- B. Only hydrophilic properties
- C. A nonpolar head and a polar tail structure
- D. Insoluble in water

5. What is the trend in atomic size as you move down a group in the periodic table?

- A. Increases from left to right
- B. Decreases from top to bottom
- C. Increases from top to bottom
- D. Remains constant

6. What does the atomic number indicate?

- A. The number of neutrons in an atom
- B. The total number of protons and electrons
- C. The number of protons in the nucleus of an atom
- D. The number of electrons in each shell

7. In which process do cells ingest liquid?

- A. Phagocytosis
- B. Exocytosis
- C. Pinocytosis
- D. Diffusion

8. Which cellular component is primarily involved in communication between cells?

- A. Proteins
- B. Phospholipids
- C. Cholesterol
- D. Carbohydrates

9. In a hypotonic solution, what happens to the cell?

- A. The cell shrinks due to water loss
- B. The cell stays the same size
- C. The cell bursts due to water influx
- D. The cell becomes flaccid and wilts

10. What does an element symbol represent?

- A. A group of elements
- B. A single atom
- C. One or two letters representing an element
- D. The atomic number of an element

Answers

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

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Explanations

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1. What is cytokinesis?

- A. Phase where chromosomes are replicated
- B. Division of the cytoplasm during cell division**
- C. Separation of sister chromatids
- D. Reformation of the nuclear envelope

Cytokinesis refers specifically to the division of the cytoplasm during cell division, a crucial process that follows the separation of the genetic material during mitosis or meiosis. It ensures that each daughter cell receives not only a complete set of chromosomes but also the necessary cellular components and organelles to function properly once division is complete. In contrast, other options describe different processes that occur during cell division. The replication of chromosomes, for example, occurs during the S phase of the cell cycle, preparing the genetic material for distribution to the daughter cells. The separation of sister chromatids takes place during anaphase, which is a stage of mitosis, ensuring that each new cell will receive an identical set of chromosomes. The reformation of the nuclear envelope occurs toward the end of mitosis and helps in encasing the newly formed nuclei of the daughter cells. Thus, while all these processes are integral to cell division, cytokinesis specifically pertains to the physical division of the cytoplasm itself.

2. What forms the outer boundary of cells and is selectively permeable?

- A. Plasma membrane**
- B. Nuclear membrane
- C. Rough ER
- D. Golgi apparatus

The plasma membrane forms the outer boundary of cells and is selectively permeable, meaning it regulates what enters and exits the cell. This characteristic is crucial for maintaining homeostasis within the cell, allowing essential substances such as nutrients and oxygen to enter while keeping out harmful substances. The structure of the plasma membrane, composed of a lipid bilayer with embedded proteins, enables it to interact with various molecules and respond to changes in the environment. Other options do not fulfill this role. The nuclear membrane surrounds the nucleus, protecting the genetic material but does not act as the outer boundary of the entire cell. The rough endoplasmic reticulum (ER) is involved in protein synthesis and processing but is an internal structure, not a boundary. The Golgi apparatus functions in modifying, sorting, and packaging proteins and lipids for secretion or use within the cell, again not serving as the cell's outer boundary. Thus, the plasma membrane is indeed the correct answer as it plays a vital role in the overall function and integrity of the cell.

3. What is the function of DNA in eukaryotic cells?

- A. To perform cellular respiration
- B. To provide structural support to the cell
- C. To store and transmit genetic information**
- D. To facilitate protein synthesis

DNA in eukaryotic cells serves the primary role of storing and transmitting genetic information. This genetic material contains the instructions needed for the development, functioning, growth, and reproduction of living organisms. DNA molecules are organized into structures called chromosomes, which ensure that genetic information is accurately copied and passed on during cell division. In eukaryotes, the DNA is located within the cell nucleus, and it is involved in heredity by encoding genes that provide the necessary information to produce proteins. These proteins, in turn, determine the characteristics and functions of the organism, influencing traits ranging from physical appearance to biochemical processes. While other options pertain to different biological functions, they do not describe the specific role of DNA. For instance, cellular respiration is mainly conducted by the mitochondria, and structural support is typically provided by the cytoskeleton and cell wall. Protein synthesis occurs in ribosomes and is dependent on the information encoded by DNA but does not encompass the overall function of DNA itself. Thus, the correct choice highlights DNA's essential role as the repository of genetic information, a fundamental characteristic of all living eukaryotic cells.

4. What is the main characteristic of phospholipids in biological membranes?

- A. A polar, hydrophilic head and a nonpolar, hydrophobic tail**
- B. Only hydrophilic properties
- C. A nonpolar head and a polar tail structure
- D. Insoluble in water

Phospholipids are essential components of biological membranes, and their unique structure is key to their role. They consist of a polar, hydrophilic (water-attracting) head and two nonpolar, hydrophobic (water-repelling) tails. This amphipathic nature allows them to form bilayers, which are the fundamental building blocks of cell membranes. In aqueous environments, the hydrophilic heads face outward towards the water, while the hydrophobic tails are oriented inward, away from the water. This arrangement creates a semi-permeable barrier that is crucial for maintaining the integrity of cells and facilitating the selective transport of substances. The other options do not accurately describe the structure of phospholipids. Only considering hydrophilic properties neglects the necessary hydrophobic aspects that are vital for membrane formation. Describing phospholipids as having a nonpolar head goes against the fundamental chemical properties that define them, as the head is indeed polar. Having a statement indicating that they are insoluble in water is misleading, since while the tails are hydrophobic, the heads are soluble or interact favorably with water. Thus, the option that accurately captures the dual nature of phospholipids and their functionality in biological membranes is

5. What is the trend in atomic size as you move down a group in the periodic table?

- A. Increases from left to right
- B. Decreases from top to bottom
- C. Increases from top to bottom**
- D. Remains constant

As you move down a group in the periodic table, atomic size increases. This trend occurs primarily due to the addition of electron shells. Each time you move down to the next element in a group, another electron shell is added, which increases the distance between the nucleus and the outermost electrons. This larger distance causes the atomic radius to expand, contributing to the increase in atomic size. Moreover, even though there is an increased positive charge in the nucleus (due to additional protons) as you move down a group, the effect of increased electron shielding (the repulsive effect of inner-shell electrons) reduces the effective nuclear charge felt by the outermost electrons. This also allows the outer electrons to be held less tightly by the nucleus, contributing to the increase in atomic size. The other options reflect misconceptions about atomic size trends. For example, the idea that atomic size increases from left to right is true across a period, but not down a group. The notion that atomic size decreases from top to bottom contradicts the established trend, and the concept of atomic size remaining constant does not account for the changes in electron shells at different energy levels.

6. What does the atomic number indicate?

- A. The number of neutrons in an atom
- B. The total number of protons and electrons
- C. The number of protons in the nucleus of an atom**
- D. The number of electrons in each shell

The atomic number is a fundamental property of an element that indicates the number of protons present in the nucleus of an atom. This number uniquely identifies an element, as each element on the periodic table has a distinct atomic number. Since protons are positively charged, the atomic number also determines the overall charge of the nucleus, influencing the atom's chemical behavior and its placement in the periodic table. In a neutral atom, the number of protons equals the number of electrons, which contributes to option B; however, it is the number of protons that defines the atomic number specifically. Choices such as the number of neutrons in an atom and the number of electrons in each shell do not pertain to the atomic number, as they are related to different aspects of atomic structure. The atomic number exclusively reflects the count of protons, underscoring its vital role in characterizing elements.

7. In which process do cells ingest liquid?

- A. Phagocytosis
- B. Exocytosis
- C. Pinocytosis**
- D. Diffusion

Pinocytosis is a specific type of endocytosis that involves the ingestion of liquid by cells. During this process, small invaginations of the cell membrane form vesicles, allowing the cell to take in extracellular fluid along with any dissolved substances present in that fluid. This is crucial for cells to absorb nutrients and maintain homeostasis, as it enables the uptake of necessary molecules and ions from their environment. In contrast, phagocytosis refers to the ingestion of large particles, such as bacteria or debris, while exocytosis involves the expulsion of materials from a cell. Diffusion, on the other hand, is a passive transport process that involves the movement of molecules from an area of higher concentration to an area of lower concentration, rather than the ingestion of liquid by the cell. Therefore, pinocytosis is the most accurate term for the process described in the question.

8. Which cellular component is primarily involved in communication between cells?

- A. Proteins
- B. Phospholipids
- C. Cholesterol
- D. Carbohydrates**

The correct answer focuses on carbohydrates, particularly their role in cell communication. Carbohydrates are often found on cell surfaces as glycoproteins or glycolipids, where they serve as recognition sites that allow cells to interact with each other. These carbohydrate structures facilitate cell recognition and signal transduction, playing a key role in various biological processes including immune response and tissue formation. In contrast, while proteins also play vital roles in cell communication, they primarily function as receptors or signaling molecules rather than being directly involved in the identification and interaction that carbohydrates provide. Phospholipids mainly contribute to membrane structure and fluidity but do not directly participate in communication between cells. Cholesterol contributes to membrane stability and fluidity but lacks a direct role in cell-to-cell communication, making carbohydrates the primary component for this function.

9. In a hypotonic solution, what happens to the cell?

- A. The cell shrinks due to water loss
- B. The cell stays the same size
- C. The cell bursts due to water influx**
- D. The cell becomes flaccid and wilts

In a hypotonic solution, the concentration of solutes outside the cell is lower than that inside the cell. This creates a scenario in which water moves into the cell through osmosis in an attempt to equalize solute concentrations. As water enters the cell, it causes the cell to swell significantly. If too much water flows in, the internal pressure can exceed the structural limits of the cell membrane, leading to the cell bursting, a process known as lysis. This phenomenon is particularly relevant in animal cells, which lack a rigid cell wall found in plant cells. While plant cells can also take in water and swell, they have a cell wall that helps prevent bursting by exerting pressure (turgor), resulting in a firm and turgid state rather than bursting. In summary, in a hypotonic solution, the influx of water can lead to cellular bursting due to the osmotic imbalance, making this the correct understanding of what occurs in such environments.

10. What does an element symbol represent?

- A. A group of elements
- B. A single atom
- C. One or two letters representing an element**
- D. The atomic number of an element

The element symbol is a one- or two-letter notation used to represent a chemical element. Each symbol is derived from the element's name, often from its Latin or Greek origin, which allows for universal recognition in the field of chemistry. For example, the symbol for carbon is "C," and that for oxygen is "O." This system of notation is crucial because it provides a concise way to refer to elements in chemical equations and formulas. While some symbols may seem intuitive based on the English name of the element, others may surprise those unfamiliar with the original names or language roots. This coding system allows scientists from around the world to communicate complex chemical information efficiently and accurately.

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:

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

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