CANADIAN NATIONAL INSTITUTE OF HEALTH (CNIH) ENTRANCE PRACTICE EXAM (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.

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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!

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Questions

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1. How does increased biodiversity affect ecosystems?

A. It makes ecosystems more vulnerable to change

B. It has no significant effect

C. It increases resilience to change

D. It promotes uniformity among species

2. Which chromosomes are present in males?

A. X and Y

B. X and X

C. Autosomes

D. Y and Y

3. Who developed the theory of gradualism?

A. Charles Darwin

B. George's Cuvier

C. James Hutton

D. Charles Lyell

4. What distinguishes aerobic from anaerobic organisms?

A. Aerobic organisms can thrive in any environment

B. Aerobic organisms do not consume organic materials

C. Aerobic organisms rely on oxygen, while anaerobic organisms do not

D. Aerobic organisms reproduce faster than anaerobic organisms

5. What does the larynx house that is important for sound production?

A. Alveoli

B. Vocal chords

C. Diaphragm

D. Trachea

6. Which of the following factors enhances the diffusion rate in the lungs?

A. Decreased surface area

B. Higher pressure of gases

C. Lower temperature of the air

D. Increased humidity

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7. Which nutrient is essential for the transport of oxygen in the blood?

A. Glucose

B. Iron

C. Calcium

D. Vitamin D

8. What is the process called when a new species is formed from an existing species?

A. Microevolution

B. Speciation

C. Genetic Drift

D. Phenotypic Change

9. Why is biodiversity important for an ecosystem?

A. It only provides food resources

B. It supports ecological stability and resilience

C. It simplifies ecological interactions

D. It leads to fewer species diversity

10. What is the function of the nuclear membrane?

A. To assist in protein synthesis

B. To separate the nucleus from the cytoplasm

C. To facilitate cell communication

D. To provide energy to the cell

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Answers

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

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Explanations

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1. How does increased biodiversity affect ecosystems?

A. It makes ecosystems more vulnerable to change

B. It has no significant effect

C. It increases resilience to change

D. It promotes uniformity among species

Increased biodiversity plays a vital role in maintaining ecosystem stability and function. When a variety of species inhabit an ecosystem, each one contributes unique interactions and functions, which enhances the overall resilience of the ecosystem. This resilience is the ability of the ecosystem to absorb disturbances while still maintaining its essential structure and processes. For instance, in a diverse ecosystem, if one species is affected by disease or environmental change, others can fill that role or provide similar functions, thus preventing a collapse or severe disruption in the ecosystem services provided. Biodiversity also enhances productivity and increases the chances of species adapting to changes, which helps ecosystems cope with stressors like climate change or habitat destruction. In contrast, a lack of biodiversity can lead to vulnerability, reduced adaptability, and a greater likelihood of ecosystem failure, as seen in ecosystems with low diversity that may be dominated by one or a few species. Hence, the ability of diverse systems to respond to changes and recover from disturbances underscores why increased biodiversity is linked to heightened resilience in ecosystems.

2. Which chromosomes are present in males?

A. X and Y

B. X and X

C. Autosomes

D. Y and Y

In humans, males typically have one X chromosome and one Y chromosome, which together define the male sex in terms of chromosomal composition. The presence of the Y chromosome is crucial; it carries the SRY gene, which is essential for triggering male sex determination and the development of male reproductive anatomy. While females have two X chromosomes, males have this combination of X and Y, leading to significant differences in various genetic traits, including those associated with sex-linked traits. Autosomes refer to non-sex chromosomes and are present in both males and females, but they do not specifically define male chromosomal makeup. The other options describing two X chromosomes or two Y chromosomes do not align with typical male genetics, as a male cannot have two Y chromosomes and females cannot have a Y chromosome. Thus, the correct answer reflects the unique chromosomal arrangement that occurs in typical male biology.

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3. Who developed the theory of gradualism?

A. Charles Darwin

B. George's Cuvier

C. James Hutton

D. Charles Lyell

The concept of gradualism is primarily attributed to James Hutton, who is often recognized as the father of modern geology. Hutton proposed that the Earth's geological features are the result of slow and continuous processes, rather than sudden, catastrophic events. This idea emphasized that the changes in the Earth's crust occur over immense periods of time, allowing for the slow accumulation of geological formations. In Hutton's view, processes such as erosion, sedimentation, and volcanic activity contribute to the gradual shaping of the Earth's surface. This perspective laid the foundation for later scientific thought, influencing both geology and the field of evolutionary biology. It is particularly significant because it supports the understanding of gradual change in both Earth's geology and the evolution of species. While figures like Charles Darwin and Charles Lyell made substantial contributions to the understanding of natural selection and the gradual change of species, it was Hutton who first articulated the principles of gradualism in geology. Consequently, his emphasis on slow, incremental change forms a crucial part of our understanding of both geology and evolutionary processes.

4. What distinguishes aerobic from anaerobic organisms?

A. Aerobic organisms can thrive in any environment

B. Aerobic organisms do not consume organic materials

C. Aerobic organisms rely on oxygen, while anaerobic organisms do not

D. Aerobic organisms reproduce faster than anaerobic organisms

The distinction between aerobic and anaerobic organisms fundamentally lies in their reliance on oxygen for metabolic processes. Aerobic organisms utilize oxygen to help break down organic materials during cellular respiration, a process that generates ATP, the energy currency of the cell. This process is highly efficient, yielding a significant amount of energy compared to anaerobic processes. In contrast, anaerobic organisms do not require oxygen to survive and may even find it toxic; they mainly rely on fermentation or other anaerobic pathways for their energy production. This relationship with oxygen is crucial, as it influences the environment in which these organisms can thrive. The other options do not accurately capture this distinction. For instance, saying that aerobic organisms can thrive in any environment overlooks the fact that they require oxygen-rich conditions to survive. Stating that aerobic organisms do not consume organic materials is misleading, as they rely on organic compounds as a source of energy. Finally, the assertion about reproduction rates does not inherently differentiate the two groups, as reproduction speed can vary widely among species regardless of their oxygen dependence.

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5. What does the larynx house that is important for sound production?

A. Alveoli

B. Vocal chords

C. Diaphragm

D. Trachea

The larynx is a crucial organ in the respiratory system that contains the vocal cords, also known as vocal folds. These structures are essential for sound production because they vibrate as air passes through them from the lungs, creating sound waves. The tension and length of the vocal cords can be adjusted by muscles in the larynx, allowing for variations in pitch and volume. This ability to modulate sound is what enables humans to produce a wide range of vocal tones, from speaking to singing. In contrast, alveoli are tiny air sacs in the lungs responsible for gas exchange, while the diaphragm is a muscle that aids in breathing by contracting to allow air into the lungs. The trachea serves as the windpipe that connects the throat to the lungs, facilitating airflow but does not contribute to sound production. Understanding the role of the larynx and its components in sound generation is fundamental in various fields, including speech-language pathology and music.

6. Which of the following factors enhances the diffusion rate in the lungs?

A. Decreased surface area

B. Higher pressure of gases

C. Lower temperature of the air

D. Increased humidity

The diffusion rate in the lungs is influenced by several factors, and one of the primary aspects is the pressure of the gases involved. When the pressure of oxygen or carbon dioxide is higher, there is a greater concentration gradient. This gradient is crucial for diffusion, as gases move from areas of higher pressure to areas of lower pressure. Thus, when the pressure of gases increases, the rate at which these gases diffuse across the alveolar membrane also increases, enhancing the overall process of gas exchange in the lungs. In contrast, decreased surface area would hinder diffusion because there is less available area for gases to diffuse across. Lower temperatures can decrease kinetic energy and slow down molecular movement, which would not favor rapid diffusion. While increased humidity can improve the solubility of gases and thus facilitate diffusion, it does not have the direct impact on the pressure gradient that higher gas pressure does. Therefore, the factor that most significantly enhances the diffusion rate in the lungs is indeed the higher pressure of gases.

7. Which nutrient is essential for the transport of oxygen in the blood?

A. Glucose

B. Iron

C. Calcium

D. Vitamin D

The essential nutrient for the transport of oxygen in the blood is iron. Iron is a crucial component of hemoglobin, the protein found in red blood cells that binds to oxygen in the lungs and carries it to tissues throughout the body. When iron levels are adequate, hemoglobin can effectively perform its function of oxygen transport. A deficiency in iron can lead to reduced hemoglobin production, ultimately resulting in conditions such as anemia, which impairs the body's ability to transport oxygen efficiently. Other nutrients listed, such as glucose, calcium, and vitamin D, play important roles in the body, but they are not directly involved in the transport of oxygen. Glucose is primarily an energy source for cells. Calcium is vital for bone health and muscle function, while vitamin D is important for calcium absorption and overall bone health. However, none of these nutrients facilitate the binding and transport of oxygen in the bloodstream like iron does.

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8. What is the process called when a new species is formed from an existing species?

A. Microevolution

B. Speciation

C. Genetic Drift

D. Phenotypic Change

Speciation is the process through which a new species arises from an existing species. This occurs when populations of the same species become isolated from one another, either geographically or reproductively, leading to the accumulation of genetic differences over time. As these differences grow, they can result in distinct traits, behaviors, or reproductive mechanisms that prevent the populations from interbreeding successfully, thus culminating in the formation of a new species. Understanding this process is crucial in evolutionary biology, as it explains biodiversity and the mechanisms behind how organisms adapt to their environments over time. The concept of speciation encompasses various models, including allopatric speciation (which happens due to geographical isolation) and sympatric speciation (which occurs without geographical barriers). In contrast, microevolution refers to small-scale evolutionary changes within a species or population, often involving changes in allele frequencies. Genetic drift is a mechanism of evolution that leads to changes in the genetic composition of a population due to random sampling effects, not necessarily tied to the formation of new species. Phenotypic change focuses on observable traits influenced by genetic and environmental factors rather than the broader framework of species formation. Thus, speciation specifically denotes the creation of new species, which distinguishes it from these other concepts.

9. Why is biodiversity important for an ecosystem?

A. It only provides food resources

B. It supports ecological stability and resilience

C. It simplifies ecological interactions

D. It leads to fewer species diversity

Biodiversity is crucial for an ecosystem because it supports ecological stability and resilience. When an ecosystem has a wide variety of species, it can better withstand environmental pressures and changes, such as climate shifts, disease outbreaks, and habitat destruction. This variety allows ecosystems to maintain their functionality and services, such as pollination, nutrient cycling, and water purification. Higher biodiversity also means that if one species is affected by a specific threat, others can fulfill its ecological role, thus preventing a collapse of the system. For instance, in a diverse ecosystem, if one plant species that a certain herbivore relies on decreases, that herbivore may be able to switch to another plant species, reducing the impact of that loss. This kind of interdependence and adaptability enhances resilience, making ecosystems more robust and capable of recovering after disturbances. In contrast, options that suggest biodiversity only provides food resources or simplifies interactions overlook the broader ecological functions that biodiversity supports. Similarly, the idea that it leads to fewer species diversity contradicts the very concept of biodiversity, which emphasizes the importance of having a range of species to maintain ecosystem health.

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10. What is the function of the nuclear membrane?

A. To assist in protein synthesis

B. To separate the nucleus from the cytoplasm

C. To facilitate cell communication

D. To provide energy to the cell

The nuclear membrane, also known as the nuclear envelope, functions primarily to separate the nucleus from the cytoplasm. This structure consists of two lipid bilayer membranes that encase the genetic material within the nucleus, creating a distinct environment. By maintaining this separation, the nuclear membrane protects the DNA from potential damage that could occur from reactions occurring in the cytoplasm, which is vital for maintaining the integrity of genetic information and regulating gene expression. In this way, the nuclear membrane plays a crucial role in cellular organization, ensuring that processes such as transcription and DNA replication can occur in a controlled environment. Additionally, while the nuclear pore complexes embedded in the membrane allow for the regulated exchange of materials, such as RNA and proteins, the key purpose remains the compartmentalization of the genetic material away from the cytoplasmic environment. Other functions mentioned, like assisting in protein synthesis or providing energy, do not accurately describe the role of the nuclear membrane. Protein synthesis primarily occurs in ribosomes located in the cytoplasm, while cellular energy production is largely managed by mitochondria. The idea of facilitating cell communication, while important in cellular functions, is more related to other structures and mechanisms in the cell rather than the nuclear membrane itself.

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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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