HISET SCIENCE 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.

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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. Which type of joint is described as allowing rotation where the round end of one bone fits into a ring composed of another bone or ligament?

A. Hinge Joint

B. Ball-and-Socket Joint

C. Pivot Joint

D. Condyloid Joint

2. What is a likely consequence of having an impaired immune system?

A. Increased energy levels

B. Higher susceptibility to infections

C. Enhanced healing processes

D. Lower risk of diseases

3. What term describes organisms that consume primary consumers?

A. Primary Predators

B. Secondary Consumers

C. Tertiary Consumers

D. Decomposers

4. Which of the following is a function of the endoplasmic reticulum?

A. Photosynthesis

B. Protein synthesis and transport

C. Energy production

D. Cell division

5. Which part of the brain is the largest and is associated with higher brain functions like thought and action?

A. Cerebellum

B. Cerebrum

C. Brainstem

D. Thalamus

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6. What do we call the group that is not exposed to the treatment in an experiment?

A. Experimental Group

B. Control Group

C. Trial Group

D. Dependent Group

7. What classification can describe jellyfish?

A. Crustacean

B. Coelenterate

C. Cephalopod

D. Arthropod

8. In plants, what does the term "vascular" refer to?

A. Having chlorophyll

B. Having specialized tissue

C. Being capable of photosynthesis

D. Being able to reproduce sexually

9. Which substance is a monomer of carbohydrates known as a simple sugar?

A. Fructose

B. Lactose

C. Glucose

D. Galactose

10. Which of the following best describes the role of the heart in the circulatory system?

A. To filter toxins from the blood.

B. To exchange gases with body tissues.

C. To pump blood throughout the body.

D. To regulate body temperature.

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Answers

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

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Explanations

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1. Which type of joint is described as allowing rotation where the round end of one bone fits into a ring composed of another bone or ligament?

A. Hinge Joint

B. Ball-and-Socket Joint

C. Pivot Joint

D. Condyloid Joint

The type of joint that allows for rotation, where the rounded end of one bone fits into a ring formed by another bone or a ligament, is the pivot joint. This joint structure enables rotational movement around a single axis. An example of a pivot joint in the human body is found in the neck, where the first cervical vertebra (Atlas) allows the second one (Axis) to rotate, facilitating movements such as turning the head from side to side. In comparison, hinge joints, such as those found in the elbows and knees, permit movement primarily in one plane—flexion and extension. Ball-and-socket joints, like the shoulders and hips, allow for a wide range of motion, including rotation, but the round end of a bone fits into a cup-like socket, providing multidirectional movement. Condyloid joints allow for movement but lack the degree of rotation seen in pivot joints, as they provide an oval articular surface that moves within an elliptical cavity, allowing flexion, extension, and some side-to-side motion. Thus, the distinctive characteristic of the pivot joint—rotation around a single axis—clearly identifies it as the correct answer.

2. What is a likely consequence of having an impaired immune system?

A. Increased energy levels

B. Higher susceptibility to infections

C. Enhanced healing processes

D. Lower risk of diseases

Having an impaired immune system significantly affects the body's ability to defend itself against pathogens such as bacteria, viruses, and other harmful microorganisms. When the immune system is not functioning optimally, it cannot effectively identify and eliminate these invaders. This leads to a higher susceptibility to infections, meaning that an individual is more likely to contract diseases and illnesses that a healthy immune system would normally prevent. In contrast, the other options indicate outcomes that are generally not associated with an impaired immune system. Increased energy levels, enhanced healing processes, and a lower risk of diseases are characteristics more aligned with a well-functioning immune response, which helps maintain overall health and promotes recovery from injuries and infections. Therefore, the consequence of a compromised immune system directly results in a greater vulnerability to infections.

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3. What term describes organisms that consume primary consumers?

A. Primary Predators

B. Secondary Consumers

C. Tertiary Consumers

D. Decomposers

The term that describes organisms that consume primary consumers is "secondary consumers." In ecological terms, a primary consumer typically refers to herbivores that feed on primary producers, usually plants. When secondary consumers eat these primary consumers, they are functioning within the food chain at a higher trophic level. These secondary consumers can be carnivorous or omnivorous, depending on whether they eat other animals or both plants and animals. Understanding this concept is essential for grasping how energy flows within an ecosystem, as each level of the food chain is interdependent. In this case, the category of secondary consumers is crucial for maintaining the balance in the ecosystem, as they regulate the population of primary consumers. Meanwhile, the other terms refer to different roles within the food web: primary predators often combine characteristics of secondary and tertiary consumers, while tertiary consumers are those that eat secondary consumers, and decomposers break down dead organic matter, playing a different ecological role altogether.

4. Which of the following is a function of the endoplasmic reticulum?

A. Photosynthesis

B. Protein synthesis and transport

C. Energy production

D. Cell division

The endoplasmic reticulum (ER) plays a crucial role in the synthesis and transport of proteins within the cell. It is a network of membranous tubules and sacs that is involved in the production of proteins and lipids. The rough endoplasmic reticulum, which is studded with ribosomes, is specifically responsible for synthesizing proteins that are either secreted from the cell, incorporated into the cell's plasma membrane, or sent to an organelle. After synthesis, these proteins are often transported to other parts of the cell or outside of it through vesicles. The smooth endoplasmic reticulum, on the other hand, is involved in lipid synthesis and detoxification processes, but it is not primarily focused on protein synthesis. This specialization of the ER highlights its essential functions in maintaining cellular structure and facilitating communication through protein transport. Other processes like photosynthesis, energy production, and cell division are carried out by different organelles or systems within the cell, thus not being functions of the endoplasmic reticulum.

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5. Which part of the brain is the largest and is associated with higher brain functions like thought and action?

A. Cerebellum

B. Cerebrum

C. Brainstem

D. Thalamus

The cerebrum is indeed the largest part of the brain and is primarily responsible for higher brain functions, including thought processes, reasoning, problem-solving, and voluntary muscle movements. It is divided into two hemispheres and has regions that specialize in different functions, such as the frontal lobe for planning and decision-making, the temporal lobe for hearing and memory, and the parietal lobe for sensory information processing. This structure is crucial for complex cognitive abilities and is involved in interpreting sensory information and coordinating actions. In contrast, the cerebellum, while important for motor control and coordination, does not handle higher cognitive functions to the same extent. The brainstem regulates basic life functions such as breathing and heart rate, and the thalamus acts as a relay station for sensory information but is not involved in higher cognitive processes. Thus, the primacy of the cerebrum in relation to thought and action makes it the correct answer.

6. What do we call the group that is not exposed to the treatment in an experiment?

A. Experimental Group

B. Control Group

C. Trial Group

D. Dependent Group

The group that is not exposed to the treatment in an experiment is called the control group. This group serves as a benchmark against which the effects of the treatment can be compared. By having a control group, researchers can observe how the experimental group responds to the treatment while ensuring that the conditions remain as similar as possible for both groups. This helps isolate the effects of the treatment from other variables, allowing for clearer conclusions about its efficacy. In many experiments, the control group may receive a placebo or no treatment at all while all other conditions are maintained identical to those in the experimental group. This comparison is crucial because it allows scientists to determine whether any observed changes in the experimental group can indeed be attributed to the treatment itself rather than other external factors.

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7. What classification can describe jellyfish?

A. Crustacean

B. Coelenterate

C. Cephalopod

D. Arthropod

Jellyfish are classified as coelenterates, which are part of the phylum Cnidaria. This classification encompasses not only jellyfish but also other creatures like sea anemones and corals. Coelenterates are characterized by their radial symmetry, a simple body structure with a single opening that serves as both a mouth and an anus, and the presence of specialized cells called cnidocytes that contain stinging structures used for defense and capturing prey. Understanding this classification helps in recognizing the distinct biological traits and ecological roles that jellyfish, as coelenterates, play in marine environments. They differ significantly from the other classifications mentioned, which include crustaceans (which are part of the phylum Arthropoda), cephalopods (like octopuses and squids, also within Mollusca), and arthropods. Each of these phyla has unique characteristics that set them apart from coelenterates.

8. In plants, what does the term "vascular" refer to?

A. Having chlorophyll

B. Having specialized tissue

C. Being capable of photosynthesis

D. Being able to reproduce sexually

The term "vascular" in plants refers to the presence of specialized tissue known as vascular tissue. This tissue is crucial for transporting water, nutrients, and food throughout the plant. Vascular plants, such as ferns, gymnosperms, and angiosperms, have two main types of vascular tissue: xylem, which carries water and minerals from the roots to the rest of the plant, and phloem, which transports the products of photosynthesis (sugars) from the leaves to other parts of the plant. Plants that lack vascular tissue, such as mosses and liverworts, are classified as non-vascular plants. These non-vascular plants do not have the specialized systems that allow for efficient transport of resources, which limits their size and the environments in which they can thrive. In contrast, the presence of vascular tissue supports a wide diversity of plant life, enabling them to grow larger and inhabit a variety of ecological niches. Understanding the role of vascular tissue is fundamental in botany, as it relates to the evolution and adaptability of plant species.

9. Which substance is a monomer of carbohydrates known as a simple sugar?

A. Fructose

B. Lactose

C. Glucose

D. Galactose

Glucose is a fundamental building block of carbohydrates and is classified as a monosaccharide, commonly referred to as a simple sugar. It is a primary source of energy for cells in many organisms. Monomers like glucose can combine to form larger carbohydrate structures, such as disaccharides and polysaccharides. For example, when two glucose molecules combine, they can form maltose, and multiple glucose units can create starch or cellulose. While fructose and galactose are also monosaccharides, glucose is often highlighted in educational contexts for its central role in energy metabolism and carbohydrate structure. Lactose, on the other hand, is a disaccharide composed of glucose and galactose, which means it is not a simple sugar or a monomer itself. Thus, recognizing glucose as a simple sugar monomer reflects its essential function and structure within carbohydrate biochemistry.

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10. Which of the following best describes the role of the heart in the circulatory system?

A. To filter toxins from the blood.

B. To exchange gases with body tissues.

C. To pump blood throughout the body.

D. To regulate body temperature.

The heart plays a central role in the circulatory system primarily by pumping blood throughout the body. This function is essential for transporting oxygen, nutrients, hormones, and waste products to and from the cells. By contracting and relaxing in a rhythmic cycle, the heart generates the necessary pressure to move blood through the network of arteries and veins, ensuring that all body tissues receive adequate blood supply. This pumping action is crucial for maintaining homeostasis and supporting the metabolic needs of the entire organism. While other functions, such as gas exchange or waste filtration, are important in biological processes, they are carried out by different organs and systems. For instance, the lungs are responsible for exchanging gases, and the kidneys filter toxins. The heart's primary and distinguishing duty is to circulate blood, making it fundamental to the overall function of the circulatory system.

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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:

https://hisetscience.examzify.com

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

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