# HISET SCIENCE PRACTICE TEST (SAMPLE)

## STUDY GUIDE



## SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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# 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


SAMPLE

# 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. **What type of muscles in the heart have properties of both skeletal and smooth muscles?**

   A. Cardiac Muscles

   B. Skeletal Muscles

   C. Smooth Muscles

   D. Voluntary Muscles

2. **What part of eukaryotic cell division involves the division of the cell nucleus?**

   A. Cytokinesis

   B. Meiosis

   C. Mitosis

   D. Telophase

3. **Which type of organism is defined as unicellular and lacking a nucleus?**

   A. Eukaryotes

   B. Multicellular Organisms

   C. Prokaryotes

   D. Viruses

4. **Which type of cells is primarily responsible for fighting infections in the body?**

   A. Red blood cells

   B. Platelets

   C. White blood cells

   D. Stem cells

5. **What is defined as an abnormal condition inherited through genes or chromosomes?**

   A. Genetic Mutation

   B. Genetic Disorder

   C. Genetic Trait

   D. Genetic Variation

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**6. What is the role of ventricle in the heart?**

A. To receive blood from the body

B. To pump blood out of the heart

C. To regulate heart contractions

D. To separate oxygenated and deoxygenated blood

**7. 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.

**8. Which type of plants include liverworts and hornworts and are generally nonvascular?**

A. Angiosperms

B. Mosses

C. Ferns

D. Bryophytes

**9. What type of muscle is classified as voluntary?**

A. Skeletal muscle

B. Cardiac muscle

C. Involuntary muscle

D. Striated muscle

**10. Which type of organisms reproduces through the division of one cell to form the entire organism?**

A. Multicellular Organisms

B. Unicellular Organisms

C. Colonial Organisms

D. Prokaryotic Organisms

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# Answers

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

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# Explanations

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## 1. What type of muscles in the heart have properties of both skeletal and smooth muscles?

A. Cardiac Muscles

B. Skeletal Muscles

C. Smooth Muscles

D. Voluntary Muscles

*Cardiac muscles are unique in that they possess characteristics of both skeletal and smooth muscles. These muscles, which make up the heart, are striated like skeletal muscles, meaning they have a banded appearance under a microscope due to the organization of myofibrils. This striation is similar to skeletal muscle, which is under voluntary control and allows for rapid and forceful contractions. However, unlike skeletal muscles, cardiac muscle operates involuntarily, similar to smooth muscle. This means that the heart beats automatically and rhythmically without conscious control, allowing it to pump blood continuously throughout the body. Furthermore, cardiac muscle cells are interconnected by intercalated discs, which enable coordinated contractions of the entire heart muscle. This unique combination of traits makes cardiac muscle an essential component for the heart's function in the circulatory system.*

## 2. What part of eukaryotic cell division involves the division of the cell nucleus?

A. Cytokinesis

B. Meiosis

C. Mitosis

D. Telophase

*The division of the cell nucleus in eukaryotic cell division is specifically described by the process of mitosis. During mitosis, the replicated chromosomes are efficiently separated into two distinct nuclei, ensuring that each daughter cell receives an identical set of chromosomes. This process involves several stages, including prophase, metaphase, anaphase, and telophase, all of which contribute to the precise distribution of nuclear material. While meiosis is another type of cell division that includes nuclear division, it is specifically for producing gametes and involves two rounds of division, which is different from the purpose of mitosis. Cytokinesis, on the other hand, is the final step of the cell division process where the cytoplasm splits to form two separate cells, but it occurs after mitosis has completed. Telophase, a stage within mitosis, is indeed part of the nuclear division process, but it does not refer to the entire process itself. Therefore, mitosis is the most accurate answer regarding the division of the cell nucleus.*

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## 3. Which type of organism is defined as unicellular and lacking a nucleus?

A. Eukaryotes

B. Multicellular Organisms

C. Prokaryotes

D. Viruses

*The correct answer is defined as prokaryotes, which are organisms that are characterized by their unicellular structure and the absence of a true nucleus. In prokaryotic cells, the genetic material is not enclosed within a membrane-bound nucleus; instead, it is located in a region called the nucleoid. This fundamental distinction is significant as it separates prokaryotes, which include bacteria and archaea, from eukaryotes—organisms that have complex cells with a defined nucleus. In addition, unicellularity is a common feature of prokaryotes. They can exist as single-celled organisms, which perform all essential life functions within that one cell. This simplicity allows them to reproduce rapidly and adapt to various environments. Understanding this concept is crucial because it lays the foundation for studying more complex life forms, such as eukaryotes, which possess more advanced structures and functions, including compartmentalization of genetic material and various organelles.*

## 4. Which type of cells is primarily responsible for fighting infections in the body?

A. Red blood cells

B. Platelets

C. White blood cells

D. Stem cells

*White blood cells, or leukocytes, are the primary cells responsible for fighting infections in the body. They play a crucial role in the immune system, protecting the body against pathogens such as bacteria, viruses, and other foreign invaders. White blood cells are equipped with various mechanisms to identify, target, and eliminate these harmful organisms. Different types of white blood cells serve specific functions; for example, neutrophils and macrophages engulf and destroy pathogens through a process called phagocytosis, while lymphocytes are involved in producing antibodies and coordinating the immune response. This diverse functionality allows white blood cells to respond effectively to a wide variety of infections. In contrast, red blood cells are primarily responsible for transporting oxygen from the lungs to the tissues and carrying carbon dioxide back to the lungs, while platelets are essential for blood clotting. Stem cells have the potential to develop into various types of cells but do not directly fight infections themselves. Therefore, white blood cells are the correct answer as they are specifically designed and trained to tackle infections in the body.*

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## 5. What is defined as an abnormal condition inherited through genes or chromosomes?

A. Genetic Mutation

B. Genetic Disorder

C. Genetic Trait

D. Genetic Variation

*A genetic disorder is an abnormal condition that is inherited through genes or chromosomes. These disorders can result from mutations or changes in the DNA sequence that can affect how genes function and how the body operates. Genetic disorders are typically passed down from parents to offspring through inherited genetic material, which can lead to various health issues or characteristics in an individual. This definition includes a wide variety of conditions, from single-gene disorders like cystic fibrosis to complex disorders involving multiple genes and environmental factors. The key aspect of genetic disorders is their hereditary nature, distinguishing them from other genetic concepts such as traits and variations, which do not necessarily imply abnormal conditions or inherited issues.*

## 6. What is the role of ventricle in the heart?

A. To receive blood from the body

B. To pump blood out of the heart

C. To regulate heart contractions

D. To separate oxygenated and deoxygenated blood

*The ventricle's primary role in the heart is to pump blood out of the heart. The heart consists of four chambers: two atria and two ventricles. The ventricles are the lower chambers that contract forcefully to send blood either to the lungs (from the right ventricle) to be oxygenated or to the rest of the body (from the left ventricle) to deliver oxygen and nutrients. This muscular action is crucial for maintaining the circulation of blood throughout the body, ensuring that all tissues receive the oxygen and nutrients they need for proper function. While the functions of receiving blood and regulating heart contractions are important roles within the cardiovascular system, these tasks are primarily managed by the atria and the heart's electrical conduction system, respectively. The separation of oxygenated and deoxygenated blood is accomplished by the structure of the heart itself, with the left and right sides handling different types of blood but is not a direct role of the ventricles. Thus, the ventricle's main responsibility is indeed the pumping action that drives blood flow.*

## 7. 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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## 8. Which type of plants include liverworts and hornworts and are generally nonvascular?

A. Angiosperms

B. Mosses

C. Ferns

D. Bryophytes

*The correct answer is that liverworts and hornworts are classified as Bryophytes, which are indeed nonvascular plants. Bryophytes encompass three main groups: liverworts, hornworts, and mosses. These plants have simple structures compared to vascular plants, lacking an internal system of tubes for transporting water and nutrients. Instead, they absorb water and nutrients directly through their cell walls and are typically found in moist environments. Bryophytes also reproduce via spores and do not have true roots, stems, or leaves like more complex plants. This classification as nonvascular is significant because it influences their growth patterns and habitat preferences, making them reliant on moisture for reproduction and nutrient uptake. The simplicity of their structure allows them to thrive in various environments, though they remain small in stature. Understanding that liverworts and hornworts fall under the Bryophytes category provides a clearer picture of plant evolution and the diversity of plant life.*

## 9. What type of muscle is classified as voluntary?

A. Skeletal muscle

B. Cardiac muscle

C. Involuntary muscle

D. Striated muscle

*Skeletal muscle is classified as voluntary muscle because it is the type of muscle that you can consciously control. This means you can decide to move it, whether it's lifting an arm or walking. Skeletal muscles are attached to bones and are primarily responsible for the movement of the skeleton. They typically respond quickly to nervous system signals due to their structure and function. In contrast, cardiac muscle, which is found only in the heart, operates involuntarily and is controlled by the body's autonomic nervous system. Involuntary muscles, such as smooth muscle that lines the organs, also function without conscious control. Striated muscle refers to the banded appearance of skeletal and cardiac muscle under a microscope; however, this classification does not determine control over muscle contractions. Thus, the distinctive feature of skeletal muscle being under voluntary control is what makes it the correct choice in this context.*

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**10. Which type of organisms reproduces through the division of one cell to form the entire organism?**

A. Multicellular Organisms

B. Unicellular Organisms

C. Colonial Organisms

D. Prokaryotic Organisms

*Unicellular organisms reproduce by a process called binary fission, wherein a single cell divides into two identical daughter cells. This method of reproduction allows the entire organism to be formed from just one cell, effectively creating a new and independent organism. Unicellular organisms include bacteria, protozoa, and some algae, which carry out all necessary functions for survival and reproduction within that single cell. The question pertains specifically to organisms that can generate a whole new individual merely from the division of one existing cell, which is characteristic of unicellular life forms. Such reproduction is efficient for their survival in various environments, allowing for rapid population growth under favorable conditions. The other organism types—multicellular, colonial, and prokaryotic—do not reproduce in the same straightforward manner of a single cell giving rise to a complete organism. Multicellular organisms consist of many cells that work together, colonial organisms involve groups of cells that may be interconnected but do not function as a single cell, and while prokaryotic organisms include unicellular entities, the specific context here emphasizes the act of a single cell forming a new organism.*

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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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