

# **HISET SCIENCE PRACTICE TEST (SAMPLE)**

## **STUDY GUIDE**



## **SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS**

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THE FULL VERSION STUDY GUIDE**

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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 one main function of the muscular system?**
  - A. Protection of organs
  - B. Production of hormones
  - C. Facilitating movement
  - D. Storing minerals
  
- 2. What feature protects the bodies of animals like lobsters?**
  - A. Skeleton
  - B. Exoskeleton
  - C. Dermis
  - D. Muscles
  
- 3. Which structure allows air to pass to and from the lungs?**
  - A. Lungs
  - B. Diaphragm
  - C. Bronchi
  - D. Trachea
  
- 4. What is created as a result of conducting experiments and analyzing data?**
  - A. Theory
  - B. Data
  - C. Result
  - D. Conclusion
  
- 5. What are inorganic nutrients that help regulate many chemical reactions in the body known as?**
  - A. Vitamins
  - B. Minerals
  - C. Electrolytes
  - D. Sugars

- 6. What term refers to organisms with backbones and includes categories such as mammals and reptiles?**
- A. Invertebrates
  - B. Chordates
  - C. Vertebrates
  - D. Coelenterates
- 7. A cell that contains only one set of chromosomes is called what?**
- A. Diploid Cell
  - B. Haploid Cell
  - C. Somatic Cell
  - D. Spermatocyte
- 8. What is the role of the pancreas in the human body?**
- A. It regulates blood pressure
  - B. It secretes adrenaline
  - C. It controls the levels of sugar in the blood
  - D. It produces bile for digestion
- 9. What term describes the body's response to injury or disease?**
- A. Response
  - B. Inflammation
  - C. Immunity
  - D. Recovery
- 10. Which substances carry messages through the body in the blood?**
- A. Enzymes
  - B. Proteins
  - C. Hormones
  - D. Antibodies

## **Answers**

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

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## **Explanations**

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## 1. What is one main function of the muscular system?

- A. Protection of organs
- B. Production of hormones
- C. Facilitating movement**
- D. Storing minerals

*The muscular system plays a crucial role in facilitating movement throughout the body. Muscles work in coordination with the skeletal system to enable various types of movement including walking, running, jumping, and even finer movements such as writing or playing an instrument. When muscles contract, they pull on bones to create movement at the joints. This interaction between muscles and bones is essential not only for voluntary movements but also for involuntary actions, such as the beating of the heart and movements of the digestive tract. Overall, the functionality of the muscular system is foundational to maintaining mobility and performing daily activities.*

## 2. What feature protects the bodies of animals like lobsters?

- A. Skeleton
- B. Exoskeleton**
- C. Dermis
- D. Muscles

*The exoskeleton is a vital feature that protects the bodies of animals such as lobsters. This hard outer shell serves as a protective barrier against environmental hazards, predators, and physical damage. Unlike an internal skeleton, the exoskeleton is external and composed primarily of chitin, making it both strong and lightweight, which allows lobsters to move effectively in their aquatic environments. Additionally, the exoskeleton plays an important role in locomotion, as it provides attachment points for muscles that facilitate movement. As lobsters grow, they molt their exoskeleton to accommodate their increasing size, showcasing the dynamic nature of this protective structure. Overall, the exoskeleton is essential not only for protection but also for supporting the lifestyle and movement of lobsters in their natural habitat.*

## 3. Which structure allows air to pass to and from the lungs?

- A. Lungs
- B. Diaphragm
- C. Bronchi
- D. Trachea**

*The trachea is the primary pathway that allows air to pass in and out of the lungs. It serves as the windpipe that connects the larynx (voice box) to the bronchi, which lead directly into the lungs. Air inhaled through the nose or mouth travels down the trachea, where it is appropriately directed to the left and right bronchi, allowing for gas exchange in the alveoli of the lungs. The trachea is composed of rings of cartilage, which help keep the airway open and maintain proper airflow. This structure is vital for efficient respiratory function, as it ensures that air can be transported quickly and effectively to the sites of gas exchange in the lungs. Understanding the function of the trachea is crucial for recognizing how the respiratory system works as a whole.*

#### 4. What is created as a result of conducting experiments and analyzing data?

- A. Theory
- B. Data
- C. Result
- D. Conclusion**

*Interpreting the results to answer the original question is what you do after you've run experiments and analyzed the data. From those measurements and analyses, you form a conclusion—a clear statement about what the results mean and whether they support the hypothesis. The conclusion ties the evidence back to the question, explains what was learned, and may note any uncertainties or implications for future work. Data are the actual observations and numbers you collect. Results are the specific outcomes or measurements you record from those experiments. A theory is a well-supported explanation that has stood up to many tests over time. A conclusion, by contrast, is the reasoned summary you draw from your single study, explaining what the data imply about the question you started with.*

#### 5. What are inorganic nutrients that help regulate many chemical reactions in the body known as?

- A. Vitamins
- B. Minerals**
- C. Electrolytes
- D. Sugars

*Inorganic nutrients that play a crucial role in regulating numerous chemical reactions in the body are known as minerals. These substances, which include elements like calcium, potassium, and iron, are essential for various physiological processes, including building strong bones, transmitting nerve impulses, and maintaining fluid balance. Unlike organic nutrients such as vitamins, which contain carbon, minerals are inorganic and cannot be broken down by heat, air, or acid. Their presence in the body directly influences metabolic pathways, ensuring that functions such as enzyme activity and muscle contraction proceed smoothly. While electrolytes are a subset of minerals that specifically help maintain electrical balance and fluid levels in the body, the broader category that encompasses all inorganic nutrients required for chemical reactions is indeed minerals. Vitamins and sugars, while important for health, do not fall under the category of inorganic nutrients. Hence, the correct identification of minerals highlights their vital function in sustaining life through chemical regulation and metabolic support.*

#### 6. What term refers to organisms with backbones and includes categories such as mammals and reptiles?

- A. Invertebrates
- B. Chordates
- C. Vertebrates**
- D. Coelenterates

*The term that refers to organisms with backbones is "vertebrates." Vertebrates are a subphylum of the phylum Chordata and are characterized by the presence of a vertebral column, commonly known as the backbone. This category includes a diverse range of animals such as mammals, reptiles, birds, amphibians, and fish. The backbone provides structural support and protection for the spinal cord, which is crucial for the nervous system and overall movement. Understanding the characteristics of vertebrates helps to classify and differentiate them from other categories of animals, such as invertebrates, which do not possess a backbone. Thus, recognizing that vertebrates are specifically classified by this defining feature is essential in the study of animal biology.*

## 7. A cell that contains only one set of chromosomes is called what?

- A. Diploid Cell
- B. Haploid Cell**
- C. Somatic Cell
- D. Spermatocyte

A cell that contains only one set of chromosomes is referred to as a haploid cell. In humans and many other organisms, the haploid condition is typically represented by gametes, such as sperm and egg cells. These cells are crucial for sexual reproduction because they combine during fertilization to form a diploid zygote, restoring the paired sets of chromosomes. To elaborate, haploid cells have half the number of chromosomes compared to diploid cells, which have two sets. This reduction is essential for maintaining the stable number of chromosomes in a species across generations. When organisms reproduce sexually, the haploid cells play a key role in ensuring genetic diversity as they combine genetic material from two parents. Diploid cells, in contrast, are those that contain two sets of chromosomes and are commonly found in somatic cells, which make up the majority of an organism's body. Somatic cells are not involved in reproduction. A spermatocyte is a specific type of diploid cell that undergoes meiosis to produce haploid sperm cells, but it is still considered diploid before this process.

## 8. What is the role of the pancreas in the human body?

- A. It regulates blood pressure
- B. It secretes adrenaline
- C. It controls the levels of sugar in the blood**
- D. It produces bile for digestion

The pancreas plays a crucial role in regulating blood sugar levels, which is essential for maintaining overall metabolic homeostasis. It achieves this primarily through the secretion of hormones, specifically insulin and glucagon. When blood sugar levels rise, such as after eating, the pancreas releases insulin, which helps cells absorb glucose for energy or stores it as glycogen in the liver. Conversely, when blood sugar levels drop, the pancreas secretes glucagon, which signals the liver to release stored glucose back into the bloodstream. This balancing act is vital for preventing conditions such as hypoglycemia and hyperglycemia. In understanding the other options, it's important to note that the pancreas does not have a role in regulating blood pressure or secreting adrenaline; these functions are primarily associated with the adrenal glands. Additionally, while bile is crucial for digestion, it is produced by the liver, with the gallbladder storing it, rather than by the pancreas. Thus, the pancreas's primary function in controlling blood sugar levels highlights its importance in metabolic health.

## 9. What term describes the body's response to injury or disease?

- A. Response
- B. Inflammation**
- C. Immunity
- D. Recovery

*The term that describes the body's response to injury or disease is inflammation. Inflammation is a complex biological process that the body initiates in response to harmful stimuli, such as pathogens, damaged cells, or irritants. When an injury occurs or an infection is detected, the body activates its immune system, which leads to the increased blood flow to the affected area. This process results in the characteristic signs of inflammation, including redness, heat, swelling, and pain. Inflammation serves to localize and eliminate the cause of the injury or infection, clean up the damaged tissue, and start the healing process. This process plays a crucial role in protecting the body and initiating recovery. Other terms, such as immunity, refer to the body's ability to resist specific infections and diseases rather than the immediate response to injury. Recovery denotes the process of regaining health after illness or injury, but it occurs after the inflammatory response has taken place. Therefore, inflammation specifically describes the body's initial response mechanism.*

## 10. Which substances carry messages through the body in the blood?

- A. Enzymes
- B. Proteins
- C. Hormones**
- D. Antibodies

*Hormones are chemical messengers that travel through the bloodstream to tissues and organs, regulated by the endocrine system. They are produced by various glands in the body, such as the pituitary, adrenal, and thyroid glands. Hormones affect numerous physiological processes, including growth and development, metabolism, and mood regulation. Their specific roles and target sites allow them to elicit precise responses in the body, making them vital for maintaining homeostasis. Enzymes facilitate biochemical reactions but do not serve as messengers. Proteins can have various functions, including structural roles, but hormones are a specific subset of proteins dedicated to signaling. Antibodies are involved in the immune response, providing defense against pathogens rather than carrying messages throughout the body. Thus, hormones stand out as the correct answer as they are the substances primarily responsible for conveying messages through the blood.*

## 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](mailto: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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