BIOMEDICAL ADMISSIONS TEST (BMAT) 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 15

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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. What type of vibration occurs in a transverse wave?

A. Vibrations are perpendicular to energy direction

B. Vibrations occur along a line

C. Vibrations include compressions and rarefactions

D. Vibrations cancel each other out

2. What is the function of a variable resistor?

A. To induce a magnetic field

B. To vary resistance in a circuit

C. To amplify current

D. To store electric charge

3. Which of the following fractions corresponds to the decimal value of 0.33333?

A. 1/3

B. 1/4

C. 1/2

D. 1/6

4. What is a key feature of X-Rays?

A. They pass through flesh easily

B. They are the only type of radiation used in cooking

C. They are harmless in any amount

D. They can be absorbed by all types of material

5. Which type of electromagnetic wave has the highest wavelength?

A. Infrared

B. Visible Light

C. Gamma Rays

D. Radiowaves

6. What process leads to the genetic diversity of gametes during meiosis?

A. Independent assortment

B. Crossing over

C. Mutation

D. Gene flow

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7. What formula represents power (P)?

A. P = E × t

B. P = E ÷ t

C. P = E + t

D. P = E + t

8. What does 'P' represent in lens power calculations?

A. f, focal length of lens (m)

B. A, area of the lens

C. D, dioptres

D. r, radius of curvature

9. What does the formula R = V ÷ I define in electrical terms?

A. Resistance

B. Current

C. Voltage

D. Power

10. Which organ is responsible for producing pepsin?

A. Pancreas

B. Stomach

C. Liver

D. Small intestine

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Answers

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

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Explanations

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1. What type of vibration occurs in a transverse wave?

A. Vibrations are perpendicular to energy direction

B. Vibrations occur along a line

C. Vibrations include compressions and rarefactions

D. Vibrations cancel each other out

In a transverse wave, the key characteristic is that the vibrations occur perpendicular to the direction of energy propagation. This means that if the wave is moving horizontally, the particles of the medium responsible for the wave oscillate up and down. This perpendicular relationship is fundamental to how transverse waves, such as light waves or waves on a string, propagate energy through a medium. The other concepts do not apply to transverse waves. Vibrations occurring along a line suggest a longitudinal wave, where the vibrations are parallel to the direction of wave travel. The presence of compressions and rarefactions is specific to longitudinal waves, which involve the dense regions (compressions) and less dense regions (rarefactions) resulting from particle displacement in the same direction as wave travel. Finally, the idea of vibrations canceling each other out typically relates to interference patterns rather than defining the nature of the wave itself. Therefore, the definition provided correctly identifies the unique characteristic of transverse wave motion.

2. What is the function of a variable resistor?

A. To induce a magnetic field

B. To vary resistance in a circuit

C. To amplify current

D. To store electric charge

The function of a variable resistor is to vary resistance in a circuit. This capability allows users to adjust the flow of electrical current in a circuit according to the specific requirements of their application. Variable resistors can be used in various settings, such as controlling the brightness of lights, adjusting volume levels in audio systems, or modifying the speed of electric motors. By changing the amount of resistance, they effectively change the current flowing through the circuit, making them a crucial component in numerous electronic devices. The other options do not accurately represent the role of a variable resistor. Inducing a magnetic field relates to various components like coils or inductors, amplifying current is typically the function of transistors or operational amplifiers, and storing electric charge is the primary function of capacitors. Each of these components serves distinct purposes that differ significantly from the function of a variable resistor.

3. Which of the following fractions corresponds to the decimal value of 0.33333?

A. 1/3

B. 1/4

C. 1/2

D. 1/6

The decimal value of 0.33333 is a repeating decimal that signifies one-third of a whole. To understand why the fraction 1/3 corresponds to this decimal, it's essential to recognize that 0.33333 can be expressed as the infinite series of 3s in the decimal places: 0.33333... means that the digit 3 continues indefinitely. When you divide 1 by 3, you get 0.33333... This division illustrates the relationship between the fraction and its decimal form, confirming that 1/3 is equal to the decimal value given in the question. Other options, such as 1/4, 1/2, and 1/6, represent different decimal values. For example, 1/4 equals 0.25, 1/2 equals 0.5, and 1/6 equals approximately 0.16667. None of these decimal values coincide with 0.33333, making them irrelevant to the question. Thus, the fraction that correctly matches the decimal value of 0.33333 is indeed 1/3.

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4. What is a key feature of X-Rays?

A. They pass through flesh easily

B. They are the only type of radiation used in cooking

C. They are harmless in any amount

D. They can be absorbed by all types of material

X-rays are a form of electromagnetic radiation that have the ability to pass through various types of matter, including human flesh, relatively easily. This penetrative property is what makes them particularly useful in medical imaging, such as X-ray imaging of bones and internal organs. Since soft tissues contain a high concentration of water, they are less dense than bone, allowing X-rays to pass through them more readily while being absorbed by denser materials like bone. This differential absorption creates the contrast that enables the visualization of structures within the body. The other choices do not accurately describe X-rays. While X-rays are indeed utilized for various purposes, cooking is not one of them; microwave radiation is more commonly used for cooking. Furthermore, it is important to note that X-rays can be harmful in sufficient doses, which means they should be used judiciously rather than being considered harmless in any amount. Lastly, not all materials absorb X-rays equally; for instance, air has very low absorption, whereas metals can absorb X-rays significantly. Thus, the key feature is their ability to pass through flesh easily, providing the foundation for their application in medical imaging.

5. Which type of electromagnetic wave has the highest wavelength?

A. Infrared

B. Visible Light

C. Gamma Rays

D. Radiowaves

The type of electromagnetic wave that has the highest wavelength is radiowaves. Wavelength is the distance between successive peaks of a wave, and in the electromagnetic spectrum, radiowaves occupy the region with the longest wavelengths, which can extend from about one millimeter to several kilometers. This characteristic of radiowaves allows them to propagate over long distances and penetrate through various materials, making them highly effective for communication purposes, such as in radio and television broadcasting. In contrast, infrared waves, visible light, and gamma rays have progressively shorter wavelengths. Infrared waves are situated between microwaves and visible light, with wavelengths ranging from about 700 nanometers to one millimeter. Visible light occupies a narrow range from approximately 400 to 700 nanometers, while gamma rays possess very short wavelengths, typically less than 100 picometers, leading them to have the highest energy in the electromagnetic spectrum. Thus, radiowaves stand out clearly as the type of electromagnetic wave with the highest wavelength.

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6. What process leads to the genetic diversity of gametes during meiosis?

A. Independent assortment

B. Crossing over

C. Mutation

D. Gene flow

The process that leads to genetic diversity of gametes during meiosis is independent assortment. During meiosis, particularly in metaphase I, homologous chromosome pairs line up at the cell's equatorial plane. The way in which these pairs align is random, meaning that maternal and paternal chromosomes are distributed into gametes in a variety of combinations. This random distribution of chromosomes results in a significant number of possible combinations of alleles in the gametes. While crossing over contributes to genetic diversity by exchanging genetic material between homologous chromosomes, which also occurs during meiosis, independent assortment is the primary process responsible for the varied combinations of chromosomes and hence genetic diversity in the resultant gametes. Mutation refers to changes in the DNA sequence that can create new alleles but does not specifically occur during meiosis itself as a mechanism of gametic diversity. Gene flow involves the transfer of alleles or genes from one population to another, which affects genetic diversity at the population level rather than at the level of individual gametes during meiosis.

7. What formula represents power (P)?

A. $P = E \times t$

B. $P = E \div t$

C. $P = E + t$

D. $P = E + t$

Power is defined as the rate at which energy is transferred or converted. The formula that accurately represents this relationship is given by $P = E \div t$, where P is power, E is energy, and t is time. This formula indicates that power is equal to the amount of energy used or transferred divided by the time over which that energy transfer occurs. To clarify, if you were to apply one joule of energy over one second, the power would be one watt, demonstrating the direct relationship between energy expenditure and the time taken. The other options do not accurately reflect the definition of power in a physical context, as they either imply incorrect operations or combinations of energy and time that do not represent a rate of energy transfer.

8. What does 'P' represent in lens power calculations?

A. f, focal length of lens (m)

B. A, area of the lens

C. D, dioptres

D. r, radius of curvature

In lens power calculations, 'P' represents the power of a lens, which is measured in dioptres. This unit of measurement indicates the ability of the lens to converge or diverge light rays. The formula for calculating lens power is given by $P = 1/f$, where 'f' is the focal length of the lens in meters. Since the focal length is in the denominator, a shorter focal length results in a higher lens power, indicating that the lens has a stronger ability to bend light. Thus, when referring to 'P' in this context, it is directly correlated to dioptres, making option C the correct choice. The other choices provide alternate definitions that do not accurately represent what 'P' signifies in this context. The focal length, area of the lens, and radius of curvature are relevant to the design and characteristics of lenses but do not define or replace the term for lens power itself.

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9. What does the formula R = V ÷ I define in electrical terms?

A. Resistance

B. Current

C. Voltage

D. Power

The formula $R = \frac{V}{I}$ defines resistance in electrical terms, where R represents resistance measured in ohms (Ω), V represents voltage measured in volts (V), and I represents current measured in amperes (A). This relationship is established by Ohm's Law, which states that the current flowing through a conductor between two points is directly proportional to the voltage across the two points and inversely proportional to the resistance of the conductor. Understanding this formula is essential for analyzing electrical circuits, as it allows one to determine how much resistance is hindering the flow of electricity in a given situation. In practical terms, if the voltage increases while the current remains constant, the resistance must also increase, indicating the circuit's ability to oppose the flow of electric charge. This fundamental concept is crucial for anyone studying or working in fields related to electronics, physics, and engineering.

10. Which organ is responsible for producing pepsin?

A. Pancreas

B. Stomach

C. Liver

D. Small intestine

The stomach is responsible for producing pepsin, an important digestive enzyme. Pepsin is secreted as an inactive precursor known as pepsinogen by the chief cells located in the gastric glands of the stomach lining. When pepsinogen is exposed to the acidic environment created by gastric acid (hydrochloric acid), it gets activated into pepsin. This enzyme plays a crucial role in the digestion of proteins, breaking them down into smaller peptides. In contrast, while the pancreas produces several digestive enzymes and is essential for digestion, it specifically secretes enzymes like amylase, lipase, and proteases into the small intestine, not pepsin. The liver is primarily involved in producing bile, which aids in fat digestion and metabolism rather than protein digestion. The small intestine is the site of further digestion and nutrient absorption but does not produce pepsin itself. Therefore, the stomach is the correct answer as it is the organ directly responsible for the production of pepsin.

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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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