

# BIOMEDICAL ADMISSIONS TEST (BMAT) 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 function of microwaves in technology?
  - A. Cooking food in grills
  - B. Passes through the human body for imaging
  - C. Communication to and from satellites
  - D. Detecting skin cancer
2. What color precipitate forms from iron (II) hydroxide when iron (II) ions react with sodium hydroxide?
  - A. Yellow
  - B. Green
  - C. Brown
  - D. Blue
3. What type of cell division occurs in mitosis?
  - A. Production of gametes
  - B. Formation of haploid cells
  - C. Normal cell division resulting in diploid cells
  - D. Reduction of chromosome number
4. Which formula represents the surface area of a regular prism?
  - A.  $bh + lh$
  - B.  $2(bh + lh + bl)$
  - C.  $2(b + l + h)$
  - D.  $2lh + 2wh$
5. How do bulbs behave in a series circuit?
  - A. They all light up brighter than in parallel
  - B. They light dimmer as more are added
  - C. They can only be connected in parallel
  - D. They do not affect each other's brightness

6. What mechanism is required for selective reabsorption to occur in the kidneys?
- A. Diffusion
  - B. Passive transport
  - C. Active transport
  - D. Facilitated diffusion
7. What is the formula for the area of a triangle?
- A.  $A = 1/2bh$
  - B.  $A = b \times h$
  - C.  $A = \pi r^2$
  - D.  $A = ab$
8. What defines the volatility of a liquid?
- A. The ability to freeze
  - B. The ease of evaporation
  - C. The temperature at which it boils
  - D. The density of the liquid
9. What is the result of dividing 1 by 6 in decimal form?
- A. 0.166666
  - B. 0.125
  - C. 0.1
  - D. 0.2
10. What does potential difference represent in electrical terms?
- A. The amount of power generated in a circuit
  - B. The energy per unit charge between two points
  - C. The total current flowing through a circuit
  - D. The resistance offered by a circuit

## **Answers**

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

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## **Explanations**

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### 1. What is one function of microwaves in technology?

- A. Cooking food in grills
- B. Passes through the human body for imaging
- C. Communication to and from satellites**
- D. Detecting skin cancer

Microwaves play a significant role in communication technologies, particularly in the context of satellite communication. They are capable of transmitting large amounts of data over long distances with minimal loss of quality, which is essential for maintaining effective communication links. The frequency and wavelength of microwaves allow them to penetrate the atmosphere and reach satellites, making them ideal for use in radar, mobile phones, and various forms of wireless communication. In contrast, while microwaves are indeed used in cooking (as in grills) and have applications in medical imaging, the specific context of the question is focused on their function in technology, which aligns well with their role in facilitating communication to and from satellites. Similarly, while some technologies use microwaves in medical diagnosis, their primary and most widespread application in the realm of communication is as highlighted in the correct choice.

### 2. What color precipitate forms from iron (II) hydroxide when iron (II) ions react with sodium hydroxide?

- A. Yellow
- B. Green**
- C. Brown
- D. Blue

When iron (II) ions react with sodium hydroxide, they form iron (II) hydroxide, which is expressed by the chemical equation: 
$$\text{Fe}^{2+} + 2 \text{OH}^- \rightarrow \text{Fe(OH)}_2$$
 The resulting compound, iron (II) hydroxide, is known to form a precipitate that exhibits a characteristic light green color. This green color is primarily due to the specific electron transitions within the iron ions and how the precipitate interacts with light. The formation of this light green precipitate is a key observation in qualitative analysis for identifying the presence of iron (II) ions in a solution. The nature of the iron (II) hydroxide precipitate differentiates it from other metal hydroxides that might produce different colors upon precipitation. Understanding these color responses is essential for accurate identification in laboratory settings.

### 3. What type of cell division occurs in mitosis?

- A. Production of gametes
- B. Formation of haploid cells
- C. Normal cell division resulting in diploid cells**
- D. Reduction of chromosome number

Mitosis is a form of cell division that results in two daughter cells that are genetically identical to the original parent cell. This process occurs in somatic cells and is responsible for growth, tissue repair, and asexual reproduction in certain organisms. During mitosis, the chromosomes are duplicated and then evenly distributed to ensure that each new cell receives the same diploid number of chromosomes as the parent cell. This means that the outcome of mitosis is the formation of two diploid daughter cells, maintaining the same chromosome number as the original cell. The cell division process involves several key stages: prophase, metaphase, anaphase, and telophase, ultimately leading to cytokinesis, where the cytoplasm divides. This explanation underscores the significance of mitosis in producing diploid cells, as opposed to other types of cell division such as meiosis, which results in haploid gametes or a reduction in chromosome number.

#### 4. Which formula represents the surface area of a regular prism?

- A.  $bh + lh$
- B.  $2(bh + lh + bl)$**
- C.  $2(b + l + h)$
- D.  $2lh + 2wh$

The surface area of a regular prism can be calculated by considering both the lateral surface area and the areas of the two bases. In this context, the formula involves adding the area of the lateral faces to the areas of the bases. For a prism, the lateral surface area can be found by multiplying the perimeter of the base by the height of the prism. Each base of the prism contributes some area itself as well. Thus, you start with the area of the two bases (which is represented as 2 times the base area) and add the lateral area to complete the surface area calculation. The correct formula, which encapsulates these ideas, is  $2(bh + lh + bl)$ , where: -  $b$  is the area of the base, -  $h$  is the height of the prism, -  $l$  is the height/length for lateral surfaces depending on the shape of the base. This ensures that both the lateral surface area and the top and bottom bases are considered in calculating the total surface area of the prism.

#### 5. How do bulbs behave in a series circuit?

- A. They all light up brighter than in parallel
- B. They light dimmer as more are added**
- C. They can only be connected in parallel
- D. They do not affect each other's brightness

In a series circuit, components such as bulbs share the same current. As you add more bulbs to the circuit, the total resistance increases, which leads to a decrease in the overall current flowing through the circuit. Since the brightness of a bulb is directly related to the current passing through it, each additional bulb reduces the current available to the others. This results in each bulb lighting dimmer compared to when fewer bulbs are present. Consequently, if you keep adding bulbs in a series, each bulb will be less bright than the bulbs before it due to this shared current scenario. Each bulb receives less electrical power, which accounts for the diminished brightness observed in a series configuration. The other possibilities do not accurately describe the behavior of bulbs in a series circuit. For instance, bulbs in parallel do indeed light up brighter than in a series configuration because each bulb independently receives the full voltage of the power source. Additionally, bulbs can be connected in various ways, including series and parallel configurations, rather than being limited to only one arrangement. Lastly, while it's true that in a series circuit the brightness of the bulbs is interconnected through the same current, they do influence each other's brightness, which is contrary to what one of the other options suggests.

**6. What mechanism is required for selective reabsorption to occur in the kidneys?**

- A. Diffusion
- B. Passive transport
- C. Active transport**
- D. Facilitated diffusion

Selective reabsorption in the kidneys primarily relies on active transport mechanisms. This process is essential for the kidneys to reclaim valuable substances from the filtrate back into the bloodstream. Active transport involves the movement of ions and molecules against their concentration gradient, which requires energy, usually in the form of ATP. In the context of renal function, substances such as glucose, amino acids, and various ions (like sodium and potassium) are actively reabsorbed in different segments of the nephron. For example, in the proximal convoluted tubule, glucose and sodium ions are actively transported back into the blood, allowing the body to maintain homeostasis and conserve resources. Other mechanisms like diffusion and facilitated diffusion do play roles in kidney function, but they do not account for the specificity and energy requirements of selective reabsorption. Diffusion relies on concentration gradients, while facilitated diffusion uses carrier proteins to help move substances but still does not require energy. Therefore, the requirement of energy and specificity in the reabsorption of key substances underscores why active transport is the correct mechanism involved in selective reabsorption in the kidneys.

**7. What is the formula for the area of a triangle?**

- A.  $A = 1/2bh$**
- B.  $A = b \times h$
- C.  $A = \pi r^2$
- D.  $A = ab$

The formula for the area of a triangle is  $A = 1/2bh$ , where 'b' represents the base of the triangle and 'h' is the height drawn perpendicular to that base. This formula derives from the concept of calculating the area of a rectangle, which is base times height ( $b \times h$ ), and recognizing that a triangle is essentially half of such a rectangle when split diagonally. Thus, the area of a triangle is obtained by taking half of the rectangle's area, resulting in the factor of  $1/2$  in the formula. The other options presented do not correspond to the correct calculation of a triangle's area. For instance,  $b \times h$  gives the area of a rectangle rather than a triangle. The formula  $A = \pi r^2$  is used to calculate the area of a circle, while  $A = ab$  does not apply to any basic geometrical figure's area calculation without additional context, such as needing specific angles or dimensions defined.

## 8. What defines the volatility of a liquid?

- A. The ability to freeze
- B. The ease of evaporation**
- C. The temperature at which it boils
- D. The density of the liquid

*The volatility of a liquid is defined by its ease of evaporation. Volatility refers to how readily a substance undergoes a change from a liquid to a vapor state. A volatile liquid has a high tendency to evaporate, which means that molecules at the surface of the liquid are able to escape into the gas phase with relative ease. Factors contributing to volatility include the liquid's intermolecular forces; weaker intermolecular forces facilitate easier escape of molecules into the vapor phase. Substances with higher vapor pressures at a given temperature are considered more volatile because they will evaporate more readily compared to less volatile substances. The other options relate to properties of liquids but do not directly define volatility. The ability to freeze pertains to the liquid's freezing point rather than its evaporation characteristics. The temperature at which a liquid boils indicates a specific condition of phase change but does not give a general sense of how easily the liquid evaporates. The density of a liquid refers to its mass per unit volume and does not provide any direct information about evaporation or volatility.*

## 9. What is the result of dividing 1 by 6 in decimal form?

- A. 0.166666**
- B. 0.125
- C. 0.1
- D. 0.2

*When dividing 1 by 6, the result is expressed as a decimal which represents the fraction  $\frac{1}{6}$ . The decimal equivalent of this fraction can be determined by performing the long division of 1 by 6. When you divide 1 by 6, it does not divide evenly. This results in a repeating decimal: 0.166666..., where the digit '6' continues indefinitely after the decimal point. Thus, it can be accurately represented as 0.166666 with the understanding that the '6' repeats infinitely, commonly denoted as  $0.1\overline{6}$ . This reasoning reinforces why the choice stating 0.166666 as the result of the division is correct. The other choices represent decimal equivalents of different fractions (for example, 0.125 equals  $\frac{1}{8}$ , 0.1 equals  $\frac{1}{10}$ , and 0.2 equals  $\frac{1}{5}$ ), and are not applicable to the division of 1 by 6.*

## 10. What does potential difference represent in electrical terms?

- A. The amount of power generated in a circuit
- B. The energy per unit charge between two points**
- C. The total current flowing through a circuit
- D. The resistance offered by a circuit

*The correct answer is that potential difference represents the energy per unit charge between two points. In electrical terms, potential difference, also known as voltage, quantifies the work done to move a charge from one point to another in an electric field. This concept is fundamental in understanding how electrical circuits operate, as it indicates how much energy is available to drive the movement of charges. When a charge moves through a potential difference, it gains energy, which can then be converted into various forms of work, such as lighting a bulb or powering a device. The other options do not accurately define potential difference. The amount of power generated in a circuit relates to both current and potential difference but is not a direct representation of voltage itself. Total current is the flow of electric charge and is described differently, focusing on how many charges are flowing over time rather than the energy associated with their movement. Resistance, on the other hand, describes how much a material opposes the flow of current, not the energy per unit charge. Thus, recognizing potential difference as energy per unit charge is essential for understanding the principles of electricity in circuits.*

## 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://bmat.examzify.com>

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

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