

MANOR PREBOARDS MODULE 2 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. Normal arterial blood pH range is approximately?**
 - A. 7.0–7.2
 - B. 7.35–7.45
 - C. 7.55–7.65
 - D. 7.2–7.3

- 2. Which amino acid is commonly considered essential in infancy?**
 - A. Leucine
 - B. Histidine
 - C. Phenylalanine
 - D. Valine

- 3. This monosaccharide is the 2 epimer of glucose.**
 - A. Galactose
 - B. Mannose
 - C. Fructose
 - D. Sucrose

- 4. D-glucose and D-galactose**
 - A. Enantiomers
 - B. Anomers
 - C. Epimers
 - D. Not related

- 5. A vaccine primarily stimulates which arm of the immune system?**
 - A. Innate immune system
 - B. Adaptive immune system (B and T cell responses)
 - C. Humoral immune system
 - D. Cellular immune system

- 6. What does ATP stand for?**
 - A. Adenosine triphosphate
 - B. Adenosine diphosphate
 - C. Adenosine monophosphate
 - D. Adenosine tetraphosphate

- 7. Glutathione is a tripeptide composed of which amino acids?**
- A. Glutamate, Cysteine, Histidine
 - B. Glutamate, Cysteine, Glycine
 - C. Glutamate, Glycine, Alanine
 - D. Glutamate, Cysteine, Methionine
- 8. How many CO₂ molecules are released in one turn of the Krebs cycle?**
- A. 1
 - B. 2
 - C. 3
 - D. 4
- 9. Which enzyme initiates replication by creating a replication fork that yields a Y-shaped structure?**
- A. Helicase
 - B. Primase
 - C. DNA polymerase
 - D. DNA ligase
- 10. In the correct order for crude drug preparation, which step comes immediately after Collection?**
- A. Harvesting
 - B. Curing
 - C. Drying
 - D. Garbling

Answers

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

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Explanations

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1. Normal arterial blood pH range is approximately?

- A. 7.0–7.2
- B. 7.35–7.45**
- C. 7.55–7.65
- D. 7.2–7.3

Normal arterial blood pH is kept within a narrow window to support enzyme activity and metabolic processes. The typical reference range is about 7.35 to 7.45. Values within this range reflect a balanced acid–base state maintained by buffers (especially bicarbonate), respiratory control of carbon dioxide, and renal control of bicarbonate and hydrogen ions. When pH falls below this range, the blood becomes acidic (acidemia), and when it rises above it, the blood becomes too basic (alkalemia). The other ranges are either too acidic or too alkaline to be compatible with normal physiology.

2. Which amino acid is commonly considered essential in infancy?

- A. Leucine
- B. Histidine**
- C. Phenylalanine
- D. Valine

Histidine is commonly considered essential in infancy because growing babies have a rapid rate of development and their bodies cannot yet synthesize enough histidine to meet those needs. This makes dietary histidine crucial for proper growth and protein synthesis during the early stages of life. While other essential amino acids are required throughout life, the special emphasis on histidine in infancy reflects its particularly critical role during rapid growth when endogenous production lags behind demand.

3. This monosaccharide is the 2 epimer of glucose.

- A. Galactose
- B. Mannose**
- C. Fructose
- D. Sucrose

Epimers are stereoisomers that differ at exactly one chiral center. For aldoses like glucose, the carbon next to the carbonyl (C-2) is the first stereocenter, so the 2-epimer means flipping the configuration at C-2. In the common representation of D-glucose, the OH on C-2 points to the right. Inverting that center gives the structure with the OH on C-2 to the left, which corresponds to D-mannose. So the monosaccharide that is the 2-epimer of glucose is mannose. Galactose, by contrast, differs from glucose at C-4, not C-2, so it's the 4-epimer. Fructose is a ketose, not an aldose, so it isn't an epimer of glucose. Sucrose is a disaccharide composed of glucose and fructose, not a monosaccharide, so it isn't an epimer of glucose either.

4. D-glucose and D-galactose

- A. Enantiomers
- B. Anomers
- C. Epimers
- D. Not related

Epimers are stereoisomers that differ in configuration at exactly one chiral center while the other stereocenters are the same. D-glucose and D-galactose share the same carbon backbone and have the same configuration at all chiral centers except one—the carbon that bears the hydroxyl group at the fourth position. In one sugar that hydroxyl points in one direction, and in the other it points the opposite way. That single difference makes them epimers. This is distinct from enantiomers, which would invert every chiral center and be non-superimposable mirror images, and from anomers, which differ at the anomeric carbon in cyclic forms.

5. A vaccine primarily stimulates which arm of the immune system?

- A. Innate immune system
- B. Adaptive immune system (B and T cell responses)
- C. Humoral immune system
- D. Cellular immune system

Vaccines work by training the body's adaptive immune system to recognize and remember specific pathogens. This system relies on B cells and T cells to mount targeted, lasting responses. B cells produce antibodies (humoral response) and can form memory cells, while T cells handle other targeted roles (cellular response) and also contribute to memory. Innate immunity responds quickly but non-specifically and doesn't provide long-term protection. Because vaccines are designed to create a specific, lasting defense by generating memory, the arm being stimulated is the adaptive immune system—driven by both B and T cell responses.

6. What does ATP stand for?

- A. Adenosine triphosphate
- B. Adenosine diphosphate
- C. Adenosine monophosphate
- D. Adenosine tetraphosphate

ATP stands for Adenosine triphosphate, the main energy-carrying molecule in cells. It consists of adenosine (adenine plus ribose) with three phosphate groups attached. Those three phosphate group bonds store a lot of energy, and when the terminal phosphate is released, energy is released to power processes like muscle movement, active transport, and biosynthetic reactions. The cycle is simple: ATP can be regenerated from ADP by adding a phosphate group, using energy from nutrients. The other names refer to molecules with fewer or more phosphate groups, not the usual energy-carrying molecule cells rely on.

7. Glutathione is a tripeptide composed of which amino acids?

- A. Glutamate, Cysteine, Histidine
- B. Glutamate, Cysteine, Glycine**
- C. Glutamate, Glycine, Alanine
- D. Glutamate, Cysteine, Methionine

Glutathione is a short peptide made from the amino acids Glutamate, Cysteine, and Glycine in that order, connected as a gamma-glutamyl–cysteinyl–glycine tripeptide. The cysteine provides the reactive thiol group that gives glutathione its antioxidant power, while glycine completes the trio. Among the options, only Glutamate, Cysteine, and Glycine match this exact composition, whereas the other lists replace one of the needed amino acids with histidine, alanine, or methionine, so they don't form glutathione.

8. How many CO₂ molecules are released in one turn of the Krebs cycle?

- A. 1
- B. 2**
- C. 3
- D. 4

Two CO₂ molecules are released per turn of the Krebs cycle. As the two-carbon acetyl group from acetyl-CoA is oxidized, it is released as carbon dioxide in two decarboxylation steps: first when isocitrate is converted to α -ketoglutarate, and again when α -ketoglutarate is converted to succinyl-CoA. This loss of carbon dioxide regenerates the four-carbon oxaloacetate, which can accept another acetyl-CoA to continue the cycle.

9. Which enzyme initiates replication by creating a replication fork that yields a Y-shaped structure?

- A. Helicase**
- B. Primase
- C. DNA polymerase
- D. DNA ligase

Unwinding the DNA double helix to form a replication fork is accomplished by helicase. This enzyme uses energy from ATP to break the hydrogen bonds between base pairs, separating the two strands and creating the characteristic Y-shaped fork. That fork provides the single-stranded templates needed for DNA polymerases to synthesize new DNA in both directions from the origin. Primase then lays down RNA primers to start synthesis, DNA polymerase extends from those primers, and DNA ligase seals the final nicks. Without helicase, the strands stay paired and no replication fork forms, so replication can't proceed.

10. In the correct order for crude drug preparation, which step comes immediately after Collection?

A. Harvesting

B. Curing

C. Drying

D. Garbling

After gathering material from the field, the next operation is harvesting. Harvesting means selecting and taking the specific plant parts in the right stage of maturity and handling them carefully to preserve quality. This step ensures you obtain the correct portion of the drug and minimizes damage or contamination before any cleaning or drying. Curing, drying, and garbling are typically done after harvesting, as they are later processing steps to reduce moisture, condition the material, and remove extraneous matter. So the step immediately after collection is harvesting.

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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://manorpreboardsmod2.examzify.com>

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

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