

Manor Preboards Module 1 Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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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. Mees' lines are characteristic of poisoning with which metal?**
 - A. Arsenic**
 - B. Mercury**
 - C. Zinc**
 - D. Silver**

- 2. Which principle states that electrons fill the lowest available energy orbitals first?**
 - A. Aufbau principle**
 - B. Hund's rule**
 - C. Pauli's Exclusion Principle**
 - D. Heisenberg Principle**

- 3. In aerobic respiration, which stage yields NADH and FADH₂ that donate electrons to the electron transport chain?**
 - A. Glycolysis**
 - B. Pyruvate Oxidation**
 - C. Krebs Cycle**
 - D. Fermentation**

- 4. Which molecule serves as the intermediary carrying genetic information from DNA to the ribosome?**
 - A. rRNA**
 - B. mRNA**
 - C. DNA**
 - D. tRNA**

- 5. What is the typical resting membrane potential of most neurons?**
 - A. Approximately -60 mV**
 - B. Approximately -50 mV**
 - C. Approximately -80 mV**
 - D. Approximately -70 mV**

6. An atom's number of valence electrons also reflects its which property?
- A. Period
 - B. Group
 - C. Mass number
 - D. Atomic number
7. Who is associated with the 'Index of protective power of colloids' in the material?
- A. Zsigmondy
 - B. Nuggets
 - C. Dolomite
 - D. None of the above
8. Which of the following is an 8-aminoquinoline?
- A. I, II
 - B. I, III
 - C. III only
 - D. I, II, III
9. What is the role of simethicone in simethicone-containing antacids?
- A. Antidiarrheal
 - B. Preservative
 - C. Antifoaming agent
 - D. None of the above
10. The following oxides are basic with water EXCEPT:
- A. FeO
 - B. SO₂
 - C. Na₂O
 - D. CuO

Answers

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

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Explanations

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1. Mees' lines are characteristic of poisoning with which metal?

- A. Arsenic**
- B. Mercury**
- C. Zinc**
- D. Silver**

Mees' lines appear when arsenic interferes with the nail matrix during periods of exposure. They show up as transverse white bands across the nail plate, indicating a temporary halt in nail growth. As the nail continues to grow, these lines move outward and can be seen weeks to months after the arsenic exposure started. This pattern is a classic clue pointing to arsenic poisoning and can help confirm past exposure. Other metals don't produce this nail-band sign in the same characteristic way.

2. Which principle states that electrons fill the lowest available energy orbitals first?

- A. Aufbau principle**
- B. Hund's rule**
- C. Pauli's Exclusion Principle**
- D. Heisenberg Principle**

Electrons fill the lowest available energy orbitals first. This ordering of filling is described by the Aufbau principle, which says electrons occupy orbitals starting with the lowest energy and progressively move to higher energies as needed. In practice, that means filling 1s first, then 2s, then 2p, then 3s, and so on, following the relative energies of the subshells. The nuance that 4s can be filled before 3d is part of how orbital energies are arranged for different elements. So, the principle that states electrons fill the lowest energy orbitals first is the Aufbau principle. Hund's rule concerns distributing electrons within a subshell to maximize unpaired spins, Pauli's Exclusion Principle restricts two electrons in an orbital to opposite spins, and Heisenberg's Principle relates to the uncertainty of simultaneously knowing position and momentum.

3. In aerobic respiration, which stage yields NADH and FADH₂ that donate electrons to the electron transport chain?

- A. Glycolysis**
- B. Pyruvate Oxidation**
- C. Krebs Cycle**
- D. Fermentation**

In aerobic respiration, the electron carriers that feed the electron transport chain are NADH and FADH₂, which deliver high-energy electrons to power ATP synthesis. The stage that produces both of these carriers is the Krebs cycle. As acetyl-CoA is oxidized in the cycle, each turn yields three NADH and one FADH₂ (along with one GTP/ATP). These carriers then transfer electrons to the electron transport chain—NADH donates to Complex I and FADH₂ donates to Complex II—propelling the proton motive force that drives ATP synthase. Glycolysis does generate NADH but not FADH₂, and its NADH must travel to the mitochondrion via shuttle systems, not directly to the chain as both carriers. Pyruvate oxidation makes NADH but not FADH₂. Fermentation bypasses the electron transport chain entirely and does not produce NADH or FADH₂ for feeding into it.

4. Which molecule serves as the intermediary carrying genetic information from DNA to the ribosome?

- A. rRNA
- B. mRNA**
- C. DNA
- D. tRNA

Proteins are made by translating instructions encoded in DNA into a portable template called messenger RNA. This mRNA is produced during transcription, travels from the nucleus to the ribosome, and provides the sequence that guides the assembly of amino acids into a protein. The ribosome reads the mRNA, while transfer RNA delivers the correct amino acids, and ribosomal RNA forms the ribosome itself. DNA stays as the original genetic material in the nucleus, not the intermediary that carries information to the ribosome.

5. What is the typical resting membrane potential of most neurons?

- A. Approximately -60 mV
- B. Approximately -50 mV
- C. Approximately -80 mV
- D. Approximately -70 mV**

At rest, neurons maintain a membrane potential created by a difference in ion concentrations across the membrane and how permeable the membrane is to those ions. The membrane is most permeable to potassium when the neuron is not firing, so the resting potential sits mainly toward potassium's influence. Potassium's equilibrium potential is around -90 mV, while sodium's equilibrium potential is about +60 mV, but because the membrane is far more permeable to potassium at rest, the resting potential ends up closer to -70 mV rather than -90 mV or +60 mV. This makes -70 mV a typical resting value for many neurons. The other options are more depolarized or more hyperpolarized than what is commonly observed in resting conditions.

6. An atom's number of valence electrons also reflects its which property?

- A. Period
- B. Group**
- C. Mass number
- D. Atomic number

Valence electrons determine how an atom tends to bond and react chemically. For the main part of the periodic table, the number of valence electrons matches the group (the column) the element sits in. That's why the same group elements share similar chemistry: they have the same outer-electron count. Period tells you how many electron shells an atom has, mass number is the total count of protons and neutrons, and atomic number is the number of protons (the element's identity). So the number of valence electrons best reflects the group.

7. Who is associated with the 'Index of protective power of colloids' in the material?

A. Zsigmondy

B. Nuggets

C. Dolomite

D. None of the above

The idea being tested is how we measure how well a protective colloid can shield dispersed particles from coming together when electrolytes are present. The index of protective power is a way to quantify that shielding: a higher index means the colloid is more effective at preventing coagulation, keeping the suspension stable. Zsigmondy is the figure associated with this concept. He studied protective colloids and their ability to stabilize sols, introducing this kind of index to compare how strong the protective effect is for different colloids. The other options don't relate to this measurement in colloid chemistry, so they don't fit. So, the correct association is the scientist who developed and used this index to gauge protective power.

8. Which of the following is an 8-aminoquinoline?

A. I, II

B. I, III

C. III only

D. I, II, III

An 8-aminoquinoline is defined by having an amino group attached specifically at the 8-position of the quinoline ring. In quinoline, position 1 is the ring nitrogen, and position 8 sits on the fused benzene portion opposite it. This 8-position substitution is what distinguishes 8-aminoquinolines from other quinoline derivatives. Among the three structures, only the third structure shows an NH₂ group at that 8-position on the quinoline core, so it fits the definition of an 8-aminoquinoline. The other structures either lack the amino group at the 8-position or place the amino group elsewhere on the ring, so they do not belong to this class. Therefore, the third structure is the correct one.

9. What is the role of simethicone in simethicone-containing antacids?

A. Antidiarrheal

B. Preservative

C. Antifoaming agent

D. None of the above

Simethicone's role in these antacids is to act as an antifoaming agent. It lowers the surface tension of gas bubbles in the stomach and intestines, causing small bubbles to combine into larger ones that can be passed away more easily—often by belching or flatulence. This mechanical action helps relieve gas and bloating that can accompany acid-related symptoms. It isn't an antisecretory or antidiarrheal drug, and it isn't a preservative either. Because it isn't absorbed into the bloodstream, its effect is local to the gut, working directly on the gas bubbles without systemic effects.

10. The following oxides are basic with water EXCEPT:

- A. FeO
- B. SO₂**
- C. Na₂O
- D. CuO

Oxides can act as bases when they form hydroxides in water, typically metal oxides. Metal oxides like sodium oxide dissolve in water to give NaOH, a basic solution, so they are basic with water. Iron(II) oxide and copper(II) oxide do the same, forming Fe(OH)₂ and Cu(OH)₂, respectively, which are basic (though sometimes sparingly soluble). Sulfur dioxide, on the other hand, is a nonmetal oxide and reacts with water to form sulfurous acid, H₂SO₃, making the solution acidic rather than basic. That acidic behavior is why this oxide is the exception.

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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://manorpreboardsmod1.examzify.com>

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

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