PLOVDIV ENTRANCE PRACTICE TEST (SAMPLE)

STUDY GUIDE

SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Table of Contents

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

1. Peptide bond is the bond between:

A. Amines and carbohydrates

B. Alcohols and amino acids

C. Carboxylic acids and amines

D. Alpha-amino acids

2. In skeletal muscle histology, what is the correct order from the outermost to the innermost unit?

A. Epimysium, fascicles (perimysium), individual muscle fibres (endomysium), sarcolemma, myofibrils, sarcomeres

B. Epimysium, endomysium, fascicles, sarcolemma, myofibrils, sarcomeres

C. Perimysium, epimysium, endomysium, sarcolemma, myofibrils, sarcomeres

D. Endomysium, perimysium, epimysium, sarcolemma, myofibrils, sarcomeres

3. Which layer lines the chambers of the heart?

A. Myocardium

B. Endocardium

C. Epicardium

D. Pericardium

4. What does amylase do?

A. Proteins into amino acids

B. Starch into glucose

C. Fats into fatty acids and glycerol

D. Nucleic acids into nucleotides

5. What type of bonds are formed in the product KH formed from 2 K + H2 2 KH?

A. Hydrogen Bonds

B. Ionic

C. Covalent Polar

D. Covalent Non-Polar

6. Find the wrong name:

A. N_2O - Dinitrogen oxide

B. $Pb(NO_3)_2$ - lead dinitrate

C. KNO_2 - potassium nitrite

D. Na_2CO_3 - disodium carbonate

7. Which of the following is a primary amine?

A. $CH_3\text{-}NH_2$

B. $C_6H_5NH_2$

C. $CH_3\text{-}NH\text{-}C_2H_5$

D. $(CH_3)_3N$

8. What is spermatogenesis?

A. Formation of sperm

B. Development of female gametes

C. Production of testosterone

D. Maturation of the uterine lining

9. The product of benzoic acid nitration is:

A. O-Nitrobenzoic acid

B. P-Nitrobenzoic acid

C. M-Nitrobenzoic acid

D. Both O- and P-nitrobenzoic acid

10. Under similar conditions, which halide ion is the best reducing agent?

A. Fluoride ion

B. Iodide ion

C. Chloride ion

D. Bromide ion

Answers

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

Explanations

1. Peptide bond is the bond between:

A. Amines and carbohydrates

B. Alcohols and amino acids

C. Carboxylic acids and amines

D. Alpha-amino acids

A peptide bond is the covalent link that connects amino acids in a protein. It forms when the amino group of one amino acid reacts with the carboxyl group of another amino acid, releasing a molecule of water. The result is an amide linkage between two amino acids, so the bond is between alpha-amino acids. The other options point to general functional groups or different kinds of molecules, but they don't specify the actual units being joined in a peptide bond—the units involved in this bond are amino acids themselves.

2. In skeletal muscle histology, what is the correct order from the outermost to the innermost unit?

A. Epimysium, fascicles (perimysium), individual muscle fibres (endomysium), sarcolemma, myofibrils, sarcomeres

B. Epimysium, endomysium, fascicles, sarcolemma, myofibrils, sarcomeres

C. Perimysium, epimysium, endomysium, sarcolemma, myofibrils, sarcomeres

D. Endomysium, perimysium, epimysium, sarcolemma, myofibrils, sarcomeres

The arrangement goes from the outer protective layers to the inner contractile machinery. The whole muscle is enclosed by the epimysium. Inside, it's organized into bundles called fascicles, each wrapped by the perimysium. Within those fascicles lie individual muscle fibers, each surrounded by the endomysium. The muscle fiber itself has its own membrane, the sarcolemma, just inside the endomysium. Inside the fiber, the long cylindrical elements are myofibrils, which contain the repeating units called sarcomeres—the basic contractile blocks. So the order from outside to inside is epimysium, fascicles with perimysium, individual muscle fibers with endomysium, sarcolemma, myofibrils, and then sarcomeres.

3. Which layer lines the chambers of the heart?

A. Myocardium

B. Endocardium

C. Epicardium

D. Pericardium

The inner lining of the heart chambers is the endocardium. This layer lines the interior surfaces of all four chambers and covers the heart valves, providing a smooth, frictionless surface for blood to flow over. The heart wall has three layers: the epicardium on the outside, the myocardium in the middle that contracts, and the endocardium on the inside that lines the chambers. The pericardium is the surrounding sac that encloses the heart but does not line the chambers. So endocardium is the correct layer that lines the chambers.

4. What does amylase do?

A. Proteins into amino acids

B. Starch into glucose

C. Fats into fatty acids and glycerol

D. Nucleic acids into nucleotides

Amylase is the digestive enzyme that acts on starch, a carbohydrate. It speeds up the breaking of starch by hydrolyzing the bonds that hold its glucose units together, producing smaller sugars such as maltose and, ultimately, glucose. In humans, this starts in the mouth with salivary amylase and continues in the small intestine with pancreatic amylase, with final steps turning the products into glucose that the body can use for energy. So, the function described here—turning starch into glucose—is what amylase does. Other enzymes handle proteins, fats, and nucleic acids.

5. What type of bonds are formed in the product KH formed from 2 K + H2 2 KH?

A. Hydrogen Bonds

B. Ionic

C. Covalent Polar

D. Covalent Non-Polar

When a metal like potassium reacts with hydrogen gas, the product forms as an ionic compound. Potassium donates its one valence electron to hydrogen, producing K+ and H−. The strong electrostatic attraction between these oppositely charged ions binds the compound together, which is the essence of ionic bonding. Hydrogen bonds are intermolecular forces between separate molecules and aren't the type of bond here. Covalent bonds involve sharing electrons between atoms, but in this case the electron transfer creates ions rather than a shared-electron pair. So the correct description is ionic bonding.

6. Find the wrong name:

A. N2O - Dinitrogen oxide

B. Pb(NO3)2 - lead dinitrate

C. KNO2 - potassium nitrite

D. Na2CO3 - disodium carbonate

The main idea here is knowing the standard IUPAC names for simple inorganic compounds. For the compound N2O, the accepted name is dinitrogen monoxide. The form dinitrogen oxide is not the standard naming convention, so it's the one that doesn't fit. The other three names are correct: Pb(NO3)2 is lead nitrate (often written as lead(II) nitrate to show the +2 charge on lead), KNO2 is potassium nitrite, and Na2CO3 is disodium carbonate (also commonly called sodium carbonate).

7. Which of the following is a primary amine?

A. CH3-NH2

B. C6H5NH2

C. CH3-NH-C2H5

D. (CH3)3N

Primary amines are defined by nitrogen bonded to exactly one carbon atom and bearing two hydrogens (N has two N–H bonds). In the molecule CH3-NH2, the nitrogen sits next to a single carbon (the methyl group) and has two hydrogens, so it fits this pattern perfectly. The other simple amine with a benzene ring, C6H5NH2, also has the nitrogen attached to one carbon (the aryl group) and two hydrogens, so it is also a primary amine, though it's an aromatic example. A structure where nitrogen is bonded to two carbons and has one hydrogen is a secondary amine, and a structure where nitrogen is bonded to three carbons has no N–H bonds and is a tertiary amine. Hence CH3-NH2 clearly demonstrates a primary amine.

8. What is spermatogenesis?

A. Formation of sperm

B. Development of female gametes

C. Production of testosterone

D. Maturation of the uterine lining

Spermatogenesis is the formation of sperm: the process by which male germ cells in the testes develop into mature spermatozoa. It begins in the seminiferous tubules with mitotic divisions of spermatogonia, followed by meiosis where primary spermatocytes split into haploid spermatids, and then spermiogenesis that morphs those spermatids into motile sperm. The result is haploid sperm cells with a streamlined shape, ready to fertilize an egg after ejaculation and capacitation. This process is produced after puberty and is regulated by hormones, and it is distinct from the development of female gametes, testosterone production in a broader sense, or changes in the uterine lining.

9. The product of benzoic acid nitration is:

A. O-Nitrobenzoic acid

B. P-Nitrobenzoic acid

C. M-Nitrobenzoic acid

D. Both O- and P-nitrobenzoic acid

Electrophilic aromatic substitution on benzoic acid is governed by directing effects of substituents. The carboxyl group on benzoic acid pulls electron density away from the ring through both inductive and resonance effects, making it a strong meta-director. When the nitronium electrophile attacks, the most stabilized arenium ion intermediate forms if substitution occurs at the meta position relative to the carboxyl group. This leads to the major product being meta-nitrobenzoic acid (3-nitrobenzoic acid). The ortho and para positions are less favorable because the intermediate is less stabilized (and ortho also suffers steric hindrance from the carboxyl group). So, under standard nitration conditions, the predominant product is meta-nitrobenzoic acid, with para not being the major outcome.

10. Under similar conditions, which halide ion is the best reducing agent?

A. Fluoride ion

B. Iodide ion

C. Chloride ion

D. Bromide ion

Reducing power comes from how readily a species loses electrons. For halide ions, losing electrons means being oxidized to the corresponding halogen, and this tendency increases as you move down the group. The I_2/I^- couple has the smallest standard reduction potential among the halogens shown (about +0.54 V), meaning the reverse oxidation (I^- to I_2) is comparatively easy. Hence iodide donates electrons more readily than bromide or chloride, making it the strongest reducing agent under similar conditions. Fluoride's F_2/F^- pair has a much higher reduction potential (+2.87 V), so fluoride is not oxidized as easily and is a weaker reducing agent than iodide.

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://plovdiventrance.examzify.com

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