

NEET CHEMISTRY 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 the primary product of the combustion of hydrocarbons?**
 - A. Oxygen (O)
 - B. Carbon monoxide (CO)
 - C. Carbon dioxide (CO) and water (H O)
 - D. Nitrogen gas (N)

- 2. What are the effects of taking antibiotics for infections?**
 - A. Enhancement of infection
 - B. Reduction of inflammation
 - C. Destruction of harmful bacteria
 - D. Increase in fever

- 3. What are the four main types of macromolecules in biology?**
 - A. Proteins, nucleic acids, carbohydrates, and lipids
 - B. Minerals, vitamins, proteins, and carbohydrates
 - C. DNA, RNA, phospholipids, and enzymes
 - D. Amino acids, fatty acids, sugars, and bases

- 4. What type of bond is formed between an enzyme and a strong inhibitor?**
 - A. Hydrogen bond
 - B. Disulfide bond
 - C. Covalent bond
 - D. Ionic bond

- 5. What is the typical outcome of a neutralization reaction?**
 - A. Release of gas
 - B. Formation of water and a salt
 - C. Increase in temperature
 - D. Production of an acid and a base

- 6. Which neurotransmitter is associated with mood regulation?**
 - A. Dopamine
 - B. Serotonin
 - C. Noradrenaline
 - D. Histamine

7. What is the most abundant element in the universe?

- A. Oxygen
- B. Carbon
- C. Hydrogen
- D. Helium

8. What is cimetidine also known as?

- A. Pepsid
- B. Zantac
- C. Tegamet
- D. Prevacid

9. What is one requirement for a valid drug target?

- A. It must inhibit enzyme activity
- B. It must enhance energy production
- C. It must interact with biomolecules like proteins or nucleic acids
- D. It must be a water-soluble compound

10. What effect do tranquilizers typically have on a person?

- A. Increase energy levels
- B. Decrease anxiety
- C. Enhance focus
- D. Stimulate appetite

Answers

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

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Explanations

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1. What is the primary product of the combustion of hydrocarbons?

- A. Oxygen (O)
- B. Carbon monoxide (CO)
- C. Carbon dioxide (CO) and water (H O)**
- D. Nitrogen gas (N)

The primary product of the combustion of hydrocarbons is carbon dioxide (CO) and water (H O). When hydrocarbons, which consist of carbon and hydrogen atoms, undergo combustion in the presence of oxygen, a chemical reaction occurs that typically produces these two main products. The process can be summarized by the general equation for hydrocarbon combustion:
$$\text{Hydrocarbon} + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O} + \text{Energy}$$
 During this reaction, the carbon atoms from the hydrocarbon combine with oxygen to form carbon dioxide, while the hydrogen atoms combine with oxygen to form water. This release of energy is what makes combustion a highly exothermic reaction, commonly exploited in engines and heating systems. In certain conditions, especially with limited oxygen supply, incomplete combustion may occur, leading to the formation of by-products like carbon monoxide (CO), but the principal products in complete combustion scenarios are indeed carbon dioxide and water. Thus, the correct identification of the primary products highlights the nature of hydrocarbon combustion in general scenarios.

2. What are the effects of taking antibiotics for infections?

- A. Enhancement of infection
- B. Reduction of inflammation
- C. Destruction of harmful bacteria**
- D. Increase in fever

Taking antibiotics for infections primarily leads to the destruction of harmful bacteria. Antibiotics are designed to target specific types of bacteria, either by killing them outright or inhibiting their growth and reproduction. This action helps to clear the infection from the body, allowing the immune system to recover and repair the affected areas. When a person takes antibiotics, it is important to use the right type for the specific bacterial infection. Misuse or overuse of antibiotics can lead to resistance, where bacteria evolve and become less susceptible to these medications. However, when used correctly, antibiotics effectively eliminate the pathogens that are causing illness, leading to an improved health outcome. The other options do not accurately reflect the primary function of antibiotics. For example, while antibiotics can contribute to a reduction in inflammation indirectly through the clearance of infection, they do not directly act as anti-inflammatory agents. Likewise, antibiotics are not intended to enhance infections or increase fever; their primary role is to combat bacterial pathogens.

3. What are the four main types of macromolecules in biology?

- A. Proteins, nucleic acids, carbohydrates, and lipids**
- B. Minerals, vitamins, proteins, and carbohydrates
- C. DNA, RNA, phospholipids, and enzymes
- D. Amino acids, fatty acids, sugars, and bases

The four main types of macromolecules in biology are proteins, nucleic acids, carbohydrates, and lipids, which play crucial roles in various biological processes. Proteins are essential for numerous functions, including acting as enzymes that catalyze biochemical reactions, serving structural roles in cells, and playing a part in immune responses. They are made up of amino acids and fold into specific three-dimensional shapes that determine their function. Nucleic acids, which include DNA and RNA, are responsible for storing and transmitting genetic information. DNA carries the instructions for life, while RNA is involved in protein synthesis and other cellular activities. Carbohydrates serve as energy sources and structural components. They are composed of sugar molecules and are important for energy storage (like glycogen in animals and starch in plants) and the formation of cellular structures (such as cellulose in plant cell walls). Lipids are diverse molecules that are hydrophobic or amphiphilic in nature. They include fats, oils, and phospholipids, which are vital for forming cell membranes, storing energy, and acting as signaling molecules. Each of these macromolecules contributes to the structure and function of living organisms, making option A the correct choice. The other options either mix different categories or focus on

4. What type of bond is formed between an enzyme and a strong inhibitor?

- A. Hydrogen bond
- B. Disulfide bond
- C. Covalent bond**
- D. Ionic bond

The bond formed between an enzyme and a strong inhibitor is a covalent bond. This type of bond is characterized by the sharing of electron pairs between atoms, which creates a stable connection. In the context of enzyme inhibition, strong inhibitors typically interact with the active site of the enzyme by forming a covalent bond, thereby permanently altering the enzyme's structure or functionality. This permanent modification prevents the enzyme from performing its catalytic function, leading to effective inhibition. Covalent bonds are often associated with irreversible inhibitors, which permanently bind to the enzyme through a covalent interaction. This contrasts with weaker interactions, such as hydrogen bonds, ionic bonds, or disulfide bonds, which may result in temporary binding and can often be reversed, allowing the enzyme to regain its activity once the inhibitor is removed. Thus, the formation of a covalent bond indicates a strong and lasting interaction between the enzyme and the inhibitor.

5. What is the typical outcome of a neutralization reaction?

- A. Release of gas
- B. Formation of water and a salt**
- C. Increase in temperature
- D. Production of an acid and a base

The typical outcome of a neutralization reaction is the formation of water and a salt. In a neutralization reaction, an acid reacts with a base to produce these two products. This reaction is characterized by the transfer of protons (H^+) from the acid to the base, resulting in the formation of water (H_2O) and an ionic compound referred to as salt. When the acid donates a proton, the base accepts it, leading to the neutralization of the acidic properties of the reactants. The general equation for this reaction can be represented as: $\text{Acid} + \text{Base} \rightarrow \text{Salt} + \text{Water}$. This essential reaction forms the backbone of our understanding of acid-base chemistry and is commonly observed in laboratories and various real-world applications, including the regulation of pH in biological systems. The other options, while they may occur in some specific scenarios, do not represent the typical outcome of all neutralization reactions. For example, the release of gas can occur in certain reactions involving acids and specific bases, but it's not a universal outcome. An increase in temperature can happen as an exothermic process in some neutralizations, particularly strong acid and base combinations, but it's not a defining characteristic. Lastly, the production of an acid and

6. Which neurotransmitter is associated with mood regulation?

- A. Dopamine
- B. Serotonin
- C. Noradrenaline**
- D. Histamine

Serotonin is the neurotransmitter most commonly associated with mood regulation. It plays a crucial role in stabilizing mood, feelings of well-being, and happiness. It is often referred to as the "feel-good" hormone because higher levels of serotonin are linked to improved mood and emotional state. Low levels of serotonin are often associated with mood disorders such as depression and anxiety, which highlights its importance in maintaining emotional balance. While dopamine and noradrenaline do contribute to various aspects of emotional and psychological states, such as reward and arousal, respectively, they are not as directly associated with mood regulation specifically as serotonin. Histamine, on the other hand, primarily functions in the immune response and is also involved in regulating sleep and wakefulness, but it does not play a significant role in mood regulation.

7. What is the most abundant element in the universe?

- A. Oxygen
- B. Carbon
- C. Hydrogen**
- D. Helium

Hydrogen is the most abundant element in the universe, comprising about 75% of its elemental mass. This abundance is primarily a result of the processes that occurred shortly after the Big Bang, when the universe was still forming. In its early stages, hydrogen atoms were formed from the cooling and expansion of energy, and since then, they have been fundamental in the formation of stars and galaxies. As the universe evolved, hydrogen continued to play a critical role in stellar processes, including nuclear fusion, which occurs in stars. In these stellar environments, hydrogen is fused to create heavier elements, but hydrogen remains the most prevalent due to its pivotal role as a building block for stars. In contrast, while elements like oxygen and carbon are also significant in the universe, they are formed in smaller quantities through stellar nucleosynthesis and are not nearly as abundant as hydrogen. Helium, while the second most abundant element, makes up a significantly smaller portion of the universe compared to hydrogen. Therefore, the recognition of hydrogen as the most abundant element is rooted in both its historical formation and its ongoing role in the cosmos.

8. What is cimetidine also known as?

- A. Pepsid
- B. Zantac
- C. Tegamet**
- D. Prevacid

Cimetidine is also known as Tegamet. It is a medication that belongs to the class of drugs known as histamine H₂-receptor antagonists, which work by reducing stomach acid production. Cimetidine was one of the earliest H₂-blockers developed and has been used primarily for the treatment of conditions such as peptic ulcer disease and gastroesophageal reflux disease (GERD). The other names listed correspond to different medications. For instance, Zantac is the brand name for ranitidine, another H₂-receptor antagonist, while Pepsid refers to famotidine. Prevacid is known as lansoprazole, which belongs to a different class of drugs called proton pump inhibitors, aimed at reducing stomach acid by a different mechanism. Understanding these distinctions helps recognize the different approaches to treating acid-related conditions.

9. What is one requirement for a valid drug target?

- A. It must inhibit enzyme activity
- B. It must enhance energy production
- C. It must interact with biomolecules like proteins or nucleic acids**
- D. It must be a water-soluble compound

The requirement for a valid drug target is that it must interact with biomolecules like proteins or nucleic acids. This is fundamental because drugs are designed to affect the behavior of specific biological molecules that play critical roles in physiological processes. By targeting proteins (which can be enzymes, receptors, or other types of proteins) or nucleic acids (such as DNA or RNA), drugs can modulate biological pathways that lead to therapeutic effects. Interactions at the molecular level allow for the alteration of biochemical pathways, which is essential for the intended action of a drug. For example, many drugs function by blocking the active site of an enzyme, thereby inhibiting its activity, or by binding to receptors to elicit a biological response. Ultimately, the efficacy and specificity of a drug hinge on its ability to selectively interact with these biomolecules, making the understanding of such interactions crucial in drug development and pharmacology. The other listed options do not accurately encapsulate the requirement for a valid drug target. Drugs do not necessarily need to enhance energy production or be water-soluble to be effective. Likewise, not all drug targets must inhibit enzyme activity; they may have various modes of action depending on the desired therapeutic outcome.

10. What effect do tranquilizers typically have on a person?

- A. Increase energy levels
- B. Decrease anxiety**
- C. Enhance focus
- D. Stimulate appetite

Tranquilizers, also known as anxiolytics, are primarily used to reduce anxiety and promote calmness in individuals suffering from anxiety disorders or related conditions. They work by affecting neurotransmitters in the brain, particularly gamma-aminobutyric acid (GABA), which helps to inhibit excessive neuronal firing. By doing this, tranquilizers effectively decrease feelings of anxiety, promote relaxation, and can enhance sleep quality. The effect of decreasing anxiety is why this option is the most appropriate choice in the context of tranquilizers. The other options, such as increasing energy levels, enhancing focus, or stimulating appetite, do not align with the primary purpose and action of tranquilizers. Instead, tranquilizers tend to have a sedative effect, which can lead to feelings of drowsiness or lethargy instead of increased energy or enhanced cognitive focus. Additionally, while some medications may have appetite effects, that is not the primary mechanism of action for tranquilizers designed to alleviate anxiety.

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://neetchemistry.examzify.com>

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

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