Rutgers Nutrition and Health Exam 2 Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

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. Which of the following is a product of cellular metabolism along with ATP?

A. Oxygen

B. Glucose

C. Heat, water, and CO2

D. ATP, heat, water, and CO2

2. How is vitamin B12 absorbed, and who is at higher risk of deficiency?

A. B12 is absorbed in the ileum with intrinsic factor; higher risk in older adults and those with pernicious anemia or vegan diets.

B. B12 absorbed in the stomach without intrinsic factor.

C. B12 absorbed in the colon; risk in athletes.

D. B12 absorbed in the jejunum with pancreatic enzymes; risk in older adults.

3. Which plant protein is considered a complete protein with essential amino acids close to or over requirement?

A. Soy

B. Rice

C. Wheat

D. Corn

4. After a meal rich in amino acids, what happens to protein metabolism?

A. Protein breakdown decreases and synthesis increases somewhat

B. Protein breakdown increases

C. Protein synthesis stops

D. No change occurs

5. Which statement about omega-6 fatty acids is true?

A. They have their first double bond at the third carbon from the methyl end

B. They have their first double bond at the sixth carbon from the methyl end, and linoleic acid; can be converted to arachidonic acid; inflammatory.

C. They are always anti-inflammatory

D. They lack double bonds

6. How many amino acids make up protein?

- **A. 20**
- **B. 10**
- **C. 22**
- **D. 12**

7. EPA and DHA are long-chain omega-3 fatty acids commonly found in which source?

- **A. Plant oils high in linolenic acid**
- **B. Fish oils**
- **C. Concentrated sugar syrups**
- **D. Dairy fat only**

8. In nutrient guidelines, what does AI stand for?

- **A. Adequate Intake**
- **B. Actual Intake**
- **C. Average Intake**
- **D. Acceptable Intake**

9. Why is arachidonic acid described as a 'Dr. Jekyll and Mr. Hyde' fatty acid?

- **A. Because it is only beneficial**
- **B. Because it is only harmful**
- **C. Because it can participate in both pro-inflammatory and potentially beneficial signaling**
- **D. Because it is not found in the brain**

10. Non-heme iron absorption is enhanced by which factors?

- **A. Calcium and phosphate.**
- **B. Vitamin C and acidic conditions.**
- **C. Vitamin A and zinc.**
- **D. Fat and fiber.**

Answers

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

Explanations

1. Which of the following is a product of cellular metabolism along with ATP?

A. Oxygen

B. Glucose

C. Heat, water, and CO2

D. ATP, heat, water, and CO2

Cellular metabolism, especially cellular respiration, turns fuel into usable energy and releases byproducts. Glucose and oxygen are consumed to produce ATP, while carbon dioxide, water, and heat exit as byproducts. Oxygen is not produced, and glucose is not a product—it's the fuel that's broken down. So the option that includes ATP along with heat, water, and carbon dioxide reflects the actual outputs of metabolism. The overall idea is glucose + oxygen → ATP + CO2 + H2O + heat, with most energy captured in ATP and the rest dissipated as heat.

2. How is vitamin B12 absorbed, and who is at higher risk of deficiency?

A. B12 is absorbed in the ileum with intrinsic factor; higher risk in older adults and those with pernicious anemia or vegan diets.

B. B12 absorbed in the stomach without intrinsic factor.

C. B12 absorbed in the colon; risk in athletes.

D. B12 absorbed in the jejunum with pancreatic enzymes; risk in older adults.

Vitamin B12 absorption relies on intrinsic factor produced in the stomach. The B12-IF complex travels to the ileum, where it binds to receptors and is absorbed. This is why deficiency risk is higher when intrinsic factor is absent or reduced—such as in pernicious anemia or gastric atrophy common in older adults. Vegan diets also raise risk because B12 is mainly found in animal products. The other options mistake where absorption occurs or omit the essential role of intrinsic factor.

3. Which plant protein is considered a complete protein with essential amino acids close to or over requirement?

A. Soy

B. Rice

C. Wheat

D. Corn

A complete protein provides all nine essential amino acids in amounts that meet or exceed what the body needs. Among plant foods, soy stands out because its protein contains all nine essential amino acids in balanced, adequate amounts, giving it a high-quality amino acid profile comparable to animal proteins (often described as having a PDCAAS of 1.0). That's why soy is considered a complete plant protein and the best fit for this question. In contrast, rice, wheat, and corn each have limiting amino acids when eaten alone—for example, rice is relatively low in lysine, corn is low in lysine and tryptophan, and wheat is low in lysine—though combining them with other foods can create a complete pattern.

4. After a meal rich in amino acids, what happens to protein metabolism?

A. Protein breakdown decreases and synthesis increases somewhat

B. Protein breakdown increases

C. Protein synthesis stops

D. No change occurs

After a meal rich in amino acids, the body shifts into an anabolic, fed state where building new proteins is favored. The sudden rise in amino acids stimulates protein synthesis in tissues like skeletal muscle, providing the substrates and signaling that drive translation and growth. At the same time, insulin released in response to the meal further promotes synthesis and also suppresses proteolysis, reducing the breakdown of existing proteins. Because synthesis is increased and breakdown is decreased, the net protein balance moves toward gain, though the rise in synthesis is not infinite—it's a partial, positive shift. This is why the correct view is that protein breakdown decreases and synthesis increases somewhat.

5. Which statement about omega-6 fatty acids is true?

A. They have their first double bond at the third carbon from the methyl end

B. They have their first double bond at the sixth carbon from the methyl end, and linoleic acid; can be converted to arachidonic acid; inflammatory.

C. They are always anti-inflammatory

D. They lack double bonds

Omega-6 fatty acids are defined by having their first double bond six carbons from the methyl (omega) end. Linoleic acid, the primary dietary omega-6, fits this pattern. It can be desaturated and elongated to arachidonic acid, which then serves as a precursor to eicosanoids that promote inflammatory responses. So this statement captures both the naming rule and the metabolic path to arachidonic acid with inflammatory potential, making it true. The other ideas don't fit: the first double bond at the third carbon describes omega-3 fats, not omega-6; lacking double bonds would make them saturated fats; and omega-6 fats are not always anti-inflammatory—they can be pro-inflammatory through arachidonic acid-derived mediators.

6. How many amino acids make up protein?

A. 20

B. 10

C. 22

D. 12

Proteins are built from amino acids joined in chains, and the sequence of these amino acids determines how the protein folds and functions. In almost all organisms, there is a defined, canonical set of amino acids that are used to assemble proteins by the genetic code. This fixed set serves as the standard toolkit for creating the wide variety of proteins necessary for life. While some organisms incorporate a few unusual amino acids into specific proteins, those cases don't change the basic pool of amino acids typically used to construct the majority of proteins. So, the option that reflects this standard repertoire is the best choice. The other numbers refer to counts that don't match the usual assembly pool for protein construction.

7. EPA and DHA are long-chain omega-3 fatty acids commonly found in which source?

A. Plant oils high in linolenic acid

B. Fish oils

C. Concentrated sugar syrups

D. Dairy fat only

EPA and DHA are long-chain omega-3s found predominantly in marine foods. Plant oils are rich in ALA, and the body's conversion of ALA to EPA/DHA is limited, so they don't provide these fats reliably. Fish oils supply EPA and DHA directly, making them the best source among the options. Concentrated sugar syrups and dairy fat do not offer meaningful amounts of EPA/DHA.

8. In nutrient guidelines, what does AI stand for?

A. Adequate Intake

B. Actual Intake

C. Average Intake

D. Acceptable Intake

In nutrient guidelines, the term Adequate Intake is used. It's a value established when there isn't enough evidence to set an Estimated Average Requirement or a Recommended Dietary Allowance. Adequate Intake is based on observed intakes by healthy people or on experimental data and serves as a goal for daily intake to ensure nutritional adequacy when more precise data aren't available. It's a best estimate rather than a precise requirement, and you'd use it as a planning target or to evaluate whether typical intakes are likely sufficient. It's different from Actual Intake, Average Intake, or Acceptable Intake, which are not the terms used in this context.

9. Why is arachidonic acid described as a 'Dr. Jekyll and Mr. Hyde' fatty acid?

A. Because it is only beneficial

B. Because it is only harmful

C. Because it can participate in both pro-inflammatory and potentially beneficial signaling

D. Because it is not found in the brain

Arachidonic acid acts as a double-edged signaling molecule, because it serves as a substrate for enzymes that generate a range of signaling molecules with opposite effects. When released from membrane phospholipids, it can be converted by cyclooxygenases into prostaglandins and thromboxanes that promote inflammation, pain, and fever, and by lipoxygenases into leukotrienes that recruit immune cells. At the same time, other AA-derived mediators, including certain lipoxins and other pro-resolving molecules, help to dampen inflammation and promote healing. The outcome depends on the cellular context, enzyme activity, and the balance of pathways active at a given time. In the brain, arachidonic acid is part of normal neuronal signaling, and its metabolites can participate in both promoting and resolving inflammatory processes. So its role is not purely harmful or purely beneficial, which is why it's described as a Dr. Jekyll and Mr. Hyde fatty acid.

10. Non-heme iron absorption is enhanced by which factors?

A. Calcium and phosphate.

B. Vitamin C and acidic conditions.

C. Vitamin A and zinc.

D. Fat and fiber.

Non-heme iron absorption is improved when iron is kept soluble and in the ferrous form as it moves through the gut. The stomach's acidic environment helps solubilize iron, and vitamin C is especially effective because it donates electrons to ferric iron (Fe3+) and converts it to ferrous iron (Fe2+). The ferrous form forms a soluble, easily absorbed complex with ascorbate, which protects iron from precipitation as the pH rises in the small intestine and aids uptake by intestinal transporters. That's why vitamin C together with an acidic environment best enhances non-heme iron absorption. In contrast, substances like calcium and phosphate can form insoluble complexes with iron and inhibit absorption; fat and fiber can slow or reduce iron uptake in some contexts; vitamin A and zinc do not act as enhancers for non-heme iron absorption. So pairing plant-based iron sources with vitamin C-rich foods (and ensuring enough gastric acidity) optimizes absorption.

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://rutgersnutritionhealth2.examzify.com

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