ACSM Certified Exercise Physiologist (EP-C) Practice Exam (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. Don’t worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

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. What defines the maximum volume of oxygen consumption by the body?

A. VO2 max

B. Cardiac output

C. Metabolic equivalent

D. Oxygen deficit

2. Which of the following is not a principle of Motivational Interviewing?

A. Generating change talk

B. Expressing thoughts, not feelings

C. Identifying needs, not strategies

D. Making requests, not demands

3. Which of the following conditions is included in relative contraindications to exercise?

A. Severe atrial hypertension

B. Chronic infectious disease

C. Moderate stenotic valvular heart disease

D. Electrolyte abnormalities

4. What occurs when excessive protein is consumed in a single intake?

A. All of it is absorbed by the body

B. It is immediately converted to energy

C. Only 40-50 grams can be absorbed at a time

D. It has no effect on body fat

5. Which vitamins are classified as fat-soluble vitamins?

A. B and C

B. A, D, E, K

C. C, H, E, K

D. A, B, C

6. What condition is characterized by limited airflow and includes diseases such as chronic bronchitis and emphysema?

A. Asthma

B. COPD

C. Bronchiectasis

D. Pneumonia

7. Which vitamins fall under the category of water-soluble vitamins?

A. A, D, E, K

B. B and C

C. C, D, E

D. K and A

8. Which factor is NOT classified as an ACSM coronary artery risk factor?

A. Age

B. Smoking status

C. Diet

D. Hypertension

9. How are weight gain, loss, and maintenance estimated in terms of kilocalories?

A. 1,000 kcal = 1 lb of fat

B. 5,000 kcal = 1 lb of fat

C. 3,500 kcal = 1 lb of fat

D. 2,500 kcal = 1 lb of fat

10. Which cognitive process involves raising awareness about a behavior?

A. Social liberation

B. Consciousness raising

C. Environmental re-evaluation

D. Dramatic relief

Answers

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

Explanations

1. What defines the maximum volume of oxygen consumption by the body?

A. VO2 max

B. Cardiac output

C. Metabolic equivalent

D. Oxygen deficit

The maximum volume of oxygen consumption by the body is defined as VO2 max. This measurement reflects the highest rate at which oxygen can be utilized by the body during intense exercise, serving as a benchmark for cardiovascular fitness and aerobic endurance. It indicates the efficiency of the heart, lungs, and muscles in consuming and utilizing oxygen for energy production. VO2 max is influenced by various factors, including age, sex, genetics, training status, and altitude. A higher VO2 max indicates superior aerobic fitness, which is essential for endurance athletes and those looking to improve their overall physical performance. This measure is often assessed during graded exercise testing, where the subject exercises at increasing intensity levels until exhaustion. In contrast, cardiac output refers to the amount of blood the heart pumps per minute, which plays a role in oxygen delivery but is not the same as VO2 max. Metabolic equivalents (METs) are units that express the energy cost of physical activities, while oxygen deficit refers to the temporary shortage of oxygen during the transition to steady-state exercise. Although these concepts are related to exercise physiology, they do not specifically define the maximum volume of oxygen consumption.

2. Which of the following is not a principle of Motivational Interviewing?

A. Generating change talk

B. Expressing thoughts, not feelings

C. Identifying needs, not strategies

D. Making requests, not demands

Motivational Interviewing is a client-centered counseling approach aimed at eliciting and strengthening motivation for change. One of its core principles is to foster a supportive environment that encourages individuals to express their feelings and thoughts openly, which contributes to a stronger therapeutic alliance and greater engagement in the change process. Expressing thoughts, not feelings, aligns poorly with the foundational philosophy of Motivational Interviewing. The approach emphasizes the importance of understanding and validating emotional experiences, as feelings often drive behaviors and decision-making. By focusing solely on thoughts, there is a risk of neglecting the emotional context that can be critical in guiding a person toward change. Therefore, encouraging clients to articulate their feelings is essential for effective engagement in the process of motivational interviewing. The other principles mentioned—generating change talk, identifying needs rather than strategies, and making requests instead of demands—are fundamental aspects of Motivational Interviewing. Generating change talk fosters discussion about the desire, ability, reasons, and need for change, enhancing motivation. Identifying needs helps focus on what the individual wants to change rather than how they might achieve it, while making requests instead of demands respects the autonomy of individuals, fostering a more collaborative environment.

3. Which of the following conditions is included in relative contraindications to exercise?

A. Severe atrial hypertension

B. Chronic infectious disease

C. Moderate stenotic valvular heart disease

D. Electrolyte abnormalities

In the context of exercise prescriptions and assessing contraindications, relative contraindications refer to conditions that may require careful consideration or modification of exercise programs rather than an outright prohibition. Severe atrial hypertension specifically represents a situation where exercise might still be safe, but caution is warranted based on the individual's unique health status and response to physical activity. While managing severe atrial hypertension, it is crucial to monitor the individual closely during exercise, as there may be a risk of major complications. This approach allows for the possibility of engaging in physical activity while ensuring that potential health risks are mitigated through careful management. On the other hand, conditions like chronic infectious disease, moderate stenotic valvular heart disease, and electrolyte abnormalities might present more direct threats that could necessitate more urgent restrictions on exercise or comprehensive evaluation prior to engaging in physical activity. Thus, these conditions are typically considered more absolute in prohibiting exercise than relative contraindications like severe atrial hypertension.

4. What occurs when excessive protein is consumed in a single intake?

A. All of it is absorbed by the body

B. It is immediately converted to energy

C. Only 40-50 grams can be absorbed at a time

D. It has no effect on body fat

Consuming excessive protein in a single intake is subject to physiological limits in how much protein the body can effectively use at one time. Research indicates that the body can optimally utilize about 20 to 30 grams of high-quality protein for muscle protein synthesis in a single meal. The idea that only 40-50 grams can be absorbed at a time reflects the understanding that while the body can technically absorb more protein than this, the efficiency in utilizing that protein for muscle building and repair peaks around that threshold. When protein intake exceeds these optimal levels, the excess is not wasted but rather redirected through metabolic pathways. This can lead to a few potential outcomes, such as being converted into energy, contributing to glucose production, or possibly being stored as fat if caloric needs are already met. However, the key point here is that while the body has a limit on efficient utilization for muscle synthesis, absorption occurs but is not maximally effective beyond certain amounts. The distinctions highlighted regarding absorption and utilization underscore the importance of balanced protein intake throughout the day rather than consuming excessive amounts in one meal.

5. Which vitamins are classified as fat-soluble vitamins?

A. B and C

B. A, D, E, K

C. C, H, E, K

D. A, B, C

Fat-soluble vitamins are those that can dissolve in fats and oils, and they are primarily stored in the body's fatty tissues and liver. Vitamins A, D, E, and K fall into this category, as they share the characteristic of being soluble in fat, which allows them to be absorbed alongside dietary fats. Vitamin A is essential for vision, immune function, and skin health. Vitamin D plays a crucial role in calcium absorption and bone health. Vitamin E acts as an antioxidant, protecting cells from damage, while Vitamin K is vital for blood clotting and bone metabolism. The ability of these vitamins to be stored in body fat allows for a longer duration of action compared to water-soluble vitamins, which need to be consumed more frequently. This classification is fundamental in understanding how the body processes different vitamins and the implications for dietary intake and potential deficiencies. Other vitamin groups, such as the B-complex and vitamin C, are water-soluble. These vitamins do not accumulate in the body to the same extent and require more regular consumption through the diet. Understanding this distinction is crucial for developing effective dietary recommendations and understanding the functions of various vitamins within the body.

6. What condition is characterized by limited airflow and includes diseases such as chronic bronchitis and emphysema?

A. Asthma

B. COPD

C. Bronchiectasis

D. Pneumonia

Chronic Obstructive Pulmonary Disease (COPD) is characterized by persistent airflow limitation that is often progressive and associated with an enhanced chronic inflammatory response in the airways and the lung to noxious particles or gases. This condition encompasses a range of diseases, primarily chronic bronchitis and emphysema, which are both conditions that promote airflow blockage due to inflammation and structural changes in the lungs. In chronic bronchitis, inflammation of the bronchial tubes leads to increased mucus production and cough, while emphysema involves the destruction of the alveoli, reducing surface area for gas exchange. The defining feature of COPD is the difficulty patients experience in fully exhaling air from their lungs, which leads to shortness of breath and reduced exercise capacity over time. While conditions like asthma and bronchiectasis can also cause breathing difficulties, they do not share the same chronic structural changes as COPD. Pneumonia is an acute condition characterized by infection and inflammation of the lung tissue, which differs fundamentally from the chronic nature of COPD. Thus, COPD stands out as the correct answer due to its specific definition and classification of diseases that influence airflow limitations.

7. Which vitamins fall under the category of water-soluble vitamins?

A. A, D, E, K

B. B and C

C. C, D, E

D. K and A

Water-soluble vitamins primarily include the B-complex vitamins and vitamin C. These vitamins are characterized by their solubility in water, which allows them to be easily absorbed into the bloodstream and utilized by the body. They are not stored in significant amounts and must be regularly consumed in the diet. Vitamin C is well-known for its role in collagen synthesis, antioxidant activity, and immune function, while the B-complex vitamins encompass a group of vitamins that are essential for energy metabolism and red blood cell production, among other physiological functions. Because of their water solubility, excess amounts of these vitamins are typically excreted in urine rather than stored in the body. In contrast, the other options listed include fat-soluble vitamins (A, D, E, and K), which need dietary fats for absorption and are stored in the body's fatty tissues and liver. Therefore, the recognition that only the B vitamins and vitamin C belong to the water-soluble category confirms the accuracy of the answer.

8. Which factor is NOT classified as an ACSM coronary artery risk factor?

A. Age

B. Smoking status

C. Diet

D. Hypertension

The correct answer is that diet is not classified as a traditional coronary artery risk factor according to the American College of Sports Medicine (ACSM). While diet certainly plays a critical role in overall heart health and can influence other risk factors such as cholesterol levels and weight, it is not included in the specific list of major risk factors for coronary artery disease as outlined by ACSM. The traditional risk factors that are emphasized, such as age, smoking status, and hypertension, are well-established indicators that have a direct correlation with the likelihood of developing coronary artery disease. For instance, as age increases, the risk of coronary artery disease also tends to rise. Smoking is a known risk factor due to its deleterious effects on the cardiovascular system, including damage to blood vessels. Hypertension is a significant risk factor as well, as high blood pressure can lead to heart disease through various mechanisms, including increased workload on the heart and injury to arterial walls. While diet can influence these factors indirectly, it does not stand alone as a recognized risk factor in the same way that the others do in the context of the ACSM guidelines. Therefore, understanding how these risk factors interact with lifestyle choices, including diet, is crucial for a comprehensive approach to reducing the risk of cardiovascular disease

9. How are weight gain, loss, and maintenance estimated in terms of kilocalories?

A. 1,000 kcal = 1 lb of fat

B. 5,000 kcal = 1 lb of fat

C. 3,500 kcal = 1 lb of fat

D. 2,500 kcal = 1 lb of fat

The estimation that 3,500 kilocalories equate to the loss of 1 pound of body fat has been widely supported in nutritional science. This figure is grounded in the concept that body fat stores energy, and a reduction of 3,500 kilocalories from one's diet or through exercise can typically lead to the loss of 1 pound of fat. This guideline is particularly significant for designing diets and activity programs aimed at weight loss, as it provides a tangible goal for caloric deficit needed to achieve weight loss over time. For example, a daily deficit of 500 kilocalories can lead to a loss of approximately 1 pound in a week (500 kcal x 7 days = 3,500 kcal). Understanding this relationship helps individuals and fitness professionals strategize effective and sustainable weight loss plans by manipulating caloric intake and physical activity levels to meet desired outcomes.

10. Which cognitive process involves raising awareness about a behavior?

A. Social liberation

B. Consciousness raising

C. Environmental re-evaluation

D. Dramatic relief

The correct answer is the cognitive process referred to as consciousness raising. This process involves increasing awareness about specific behaviors and their consequences. When individuals are more aware of their behaviors, they can recognize how those behaviors impact their health and well-being. This heightened awareness often leads to a better understanding of the need for change. In the context of behavior change theories, such as the Transtheoretical Model, consciousness raising is a critical step that helps pave the way for individuals to move into the contemplation stage, where they begin to think seriously about changing their behavior. It can involve activities such as reading informative materials, attending workshops, or engaging in discussions that provide insights into behaviors and their effects on health. While social liberation focuses on societal changes that support behavior change, environmental re-evaluation involves assessing how one's behavior affects the environment and others around them. Dramatic relief, on the other hand, relates to experiencing emotional responses related to the behavior change, which can motivate someone to move forward in the change process, but does not directly emphasize raising awareness in the way that consciousness raising does.

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://acsmcertifiedexercisephysiologist.examzify.com

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