

Master Fitness Performance and Nutrition Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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Questions

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- 1. Why is it essential to replenish glycogen stores after exercise?**
 - A. To enhance muscle tone**
 - B. To maintain hydration**
 - C. To prepare the muscles for the next workout**
 - D. To support energy levels for recovery and future activities**
- 2. How many amino acids are proteins made from?**
 - A. 10**
 - B. 15**
 - C. 20**
 - D. 25**
- 3. What is a ketogenic diet characterized by?**
 - A. A high-fat, low-carbohydrate approach**
 - B. A balanced diet of all macronutrients**
 - C. A low-fat diet with high carbohydrates**
 - D. A plant-based diet with no animal products**
- 4. What is the primary use of glycogen stored in the liver and muscles?**
 - A. To be converted to glucose for blood sugar**
 - B. To provide immediate energy to all cells**
 - C. To be converted into fat for long-term storage**
 - D. To serve as a backup energy source during intense exercise**
- 5. What is the threshold waist circumference for men to maintain lower health risks?**
 - A. Less than 35 inches**
 - B. Less than 40 inches**
 - C. Less than 45 inches**
 - D. Less than 50 inches**

- 6. What does the term "nutrient density" refer to in a healthy diet?**
- A. High calorie density**
 - B. Low nutrient content**
 - C. High nutrient content and low calories**
 - D. Balanced macronutrient proportions**
- 7. What is the functional role of proteins as enzymes?**
- A. They provide energy for aerobic respiration**
 - B. They break down food substances during digestion**
 - C. They enhance muscle contractility**
 - D. They serve as structural components in tissues**
- 8. Which nutrient is most important for recovery after high-intensity exercise?**
- A. Fats**
 - B. Vitamins**
 - C. Carbohydrates**
 - D. Fiber**
- 9. What percentage increase in overweight/obesity diagnoses has been reported in the Active Duty population since 2006?**
- A. 27%**
 - B. 47%**
 - C. 67%**
 - D. 37%**
- 10. Which form of diabetes is most commonly linked to obesity?**
- A. Type 1 diabetes**
 - B. Type 2 diabetes**
 - C. Gestational diabetes**
 - D. Diabetes insipidus**

Answers

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

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Explanations

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1. Why is it essential to replenish glycogen stores after exercise?

- A. To enhance muscle tone**
- B. To maintain hydration**
- C. To prepare the muscles for the next workout**
- D. To support energy levels for recovery and future activities**

Replenishing glycogen stores after exercise is vital for supporting energy levels during recovery and future activities. Glycogen, which is stored in the muscles and liver, serves as a primary energy source for physical activity. When you engage in exercise, particularly high-intensity or endurance activities, your body utilizes glycogen to fuel those efforts. As these stores deplete, it's essential to replenish them to facilitate recovery and prepare the body for subsequent workouts. Adequate glycogen replenishment helps restore muscular strength and endurance, ensuring that when you return to exercise, you can perform at your best without experiencing excessive fatigue or diminished performance. Additionally, replenishing glycogen can help mitigate muscle soreness and bolster overall recovery, promoting better adaptation to training stimuli. This process is crucial for athletes or anyone who engages in regular physical activity, as it ensures that energy levels remain stable and performance potential is maximized.

2. How many amino acids are proteins made from?

- A. 10**
- B. 15**
- C. 20**
- D. 25**

Proteins are composed of 20 different amino acids that are the building blocks for forming various proteins in the body. Each amino acid plays a unique role in the structure and function of proteins, contributing to processes such as muscle repair, enzyme function, and hormone synthesis. These 20 amino acids can be categorized into two groups: essential and non-essential amino acids. Essential amino acids must be obtained through diet because the body cannot produce them, while non-essential amino acids can be synthesized by the body. The diversity of these 20 amino acids allows for the vast array of protein structures and functions necessary for life. Other numbers you might find, such as 10, 15, or 25, either refer to subsets of amino acids under specific contexts or are simply not accurate in describing the total number of amino acids that compose proteins.

3. What is a ketogenic diet characterized by?

- A. A high-fat, low-carbohydrate approach**
- B. A balanced diet of all macronutrients**
- C. A low-fat diet with high carbohydrates**
- D. A plant-based diet with no animal products**

A ketogenic diet is characterized by a high-fat, low-carbohydrate approach, which encourages the body to enter a state of ketosis. In ketosis, the body shifts its primary energy source from glucose derived from carbohydrates to ketones produced from fat. This metabolic process can lead to weight loss and has been linked to several health benefits, including improved blood sugar control and reduced hunger levels. The high-fat aspect of the diet typically comprises about 70-80% of daily caloric intake, while carbohydrates are drastically reduced, usually to about 5-10%. This unique macronutrient ratio is essential for the diet to function correctly, as it dramatically alters how the body utilizes energy, making it crucial for individuals looking to achieve specific health or weight goals. The other options present different dietary philosophies that do not align with the main principles of a ketogenic diet. The balanced diet mentioned includes equal proportions of macronutrients, which would not lead to the state of ketosis. A low-fat diet with high carbohydrates directly opposes the ketogenic approach by promoting carbohydrate intake instead of restricting it, preventing the body from entering ketosis. Lastly, a plant-based diet with no animal products emphasizes whole, plant-derived foods, which can include higher carbohydrate sources, again deviating from

4. What is the primary use of glycogen stored in the liver and muscles?

- A. To be converted to glucose for blood sugar**
- B. To provide immediate energy to all cells**
- C. To be converted into fat for long-term storage**
- D. To serve as a backup energy source during intense exercise**

The primary use of glycogen stored in the liver and muscles is to be converted to glucose for blood sugar. Glycogen serves as a readily available energy reserve that can be broken down into glucose when the body requires energy, especially during periods of fasting, exercise, or stress. In the liver, glycogen can be converted into glucose and released into the bloodstream to help maintain stable blood sugar levels, providing energy for the brain and other vital organs. This is particularly important because the body requires a constant supply of glucose, which is essential for various cellular processes. While glycogen does provide immediate energy during bursts of activity, its main function is tied to glucose metabolism, supporting sustained energy production. The conversion of glycogen into fat is a part of metabolism but is not the primary role of glycogen. During intense exercise, glycogen does serve as a vital energy source, but its broader primary function revolves around managing blood sugar levels effectively. Thus, the relevance of glycogen in fueling the body's energy needs fundamentally centers on its conversion to glucose.

5. What is the threshold waist circumference for men to maintain lower health risks?

- A. Less than 35 inches**
- B. Less than 40 inches**
- C. Less than 45 inches**
- D. Less than 50 inches**

The threshold waist circumference for men to maintain lower health risks is considered to be less than 40 inches. This measurement is significant because it is associated with the risk of obesity-related health conditions, such as cardiovascular disease, diabetes, and other metabolic syndromes. A waist circumference exceeding this threshold indicates a higher level of abdominal fat, which is particularly linked to these health risks. Research supports that men with a waist circumference over 40 inches have an increased likelihood of experiencing serious health complications related to obesity. Therefore, maintaining a waist size below this mark is recommended for overall health and to help reduce the risk of chronic diseases. Other options reflect larger waist measurements, which do not provide the necessary margin for lower health risks and are thus not aligned with current health guidelines.

6. What does the term "nutrient density" refer to in a healthy diet?

- A. High calorie density**
- B. Low nutrient content**
- C. High nutrient content and low calories**
- D. Balanced macronutrient proportions**

Nutrient density is a concept in nutrition that highlights the relationship between the nutrients provided by a food and the number of calories it contains. Specifically, it refers to foods that are high in essential nutrients—such as vitamins, minerals, and other beneficial compounds—while being relatively low in calories. This makes them an excellent choice for promoting health and maintaining a balanced diet, as they provide the necessary substances for bodily functions without contributing excessive calories that can lead to weight gain. When considering this definition, it's clear why high nutrient content paired with low calories is key to a healthy diet. Foods that embody this concept include fruits, vegetables, lean proteins, and whole grains, which offer vital nutrients that support overall health and wellbeing. Such foods not only help in meeting nutritional needs but also contribute to satiety, making it easier to manage body weight effectively. In contrast, options that suggest high calorie density, low nutrient content, or merely balanced macronutrient proportions do not accurately capture the essence of nutrient density. Foods that are high in calories but low in nutrients do not offer the benefits associated with a nutrient-dense diet, and merely focusing on macronutrient balance does not account for the micronutrient content which is essential for optimal health. Hence

7. What is the functional role of proteins as enzymes?

- A. They provide energy for aerobic respiration
- B. They break down food substances during digestion**
- C. They enhance muscle contractility
- D. They serve as structural components in tissues

Proteins play a crucial role as enzymes primarily by breaking down food substances during digestion. Enzymes are biological catalysts that accelerate chemical reactions in the body, including the breakdown of complex molecules into simpler ones. For instance, digestive enzymes like amylase, protease, and lipase specifically target carbohydrates, proteins, and fats, respectively, facilitating their decomposition into absorbable units. This process is essential for nutrition, allowing the body to extract necessary nutrients from the food consumed. While energy provision for aerobic respiration and enhancing muscle contractility are important physiological processes, they are not directly attributed to the enzymatic function of proteins. Additionally, proteins do serve as structural components in tissues, contributing to muscle and cellular structure, but this is distinct from their role as enzymes in digestion. Therefore, the correct answer highlights the specific and vital function of proteins as enzymes in the digestive process.

8. Which nutrient is most important for recovery after high-intensity exercise?

- A. Fats
- B. Vitamins
- C. Carbohydrates**
- D. Fiber

Carbohydrates are the most important nutrient for recovery after high-intensity exercise because they play a crucial role in replenishing glycogen stores that can be depleted during physical activity. When engaging in high-intensity activities, the body primarily relies on glycogen, which is stored in muscles and the liver, for energy. After exercise, it is essential to restore these glycogen levels to support recovery, enhance performance in subsequent workouts, and prevent fatigue. High-intensity exercise can lead to a significant depletion of glycogen, so consuming carbohydrates post-exercise helps facilitate this recovery process. Additionally, carbohydrates can stimulate insulin release, which not only helps with glycogen storage but also supports the uptake of amino acids into muscle cells, aiding in muscle repair and growth. While fats, vitamins, and fiber have their roles in overall nutrition and health, they do not provide the immediate energy restoration needed after intense physical exertion in the same way carbohydrates do. Fats are used primarily for endurance activities, vitamins are essential for various metabolic processes, and fiber aids digestion but does not directly impact glycogen replenishment. Thus, carbohydrates are critical for athletes and individuals performing high-intensity workouts to ensure a successful recovery.

9. What percentage increase in overweight/obesity diagnoses has been reported in the Active Duty population since 2006?

- A. 27%**
- B. 47%**
- C. 67%**
- D. 37%**

The reported percentage increase in overweight and obesity diagnoses in the Active Duty population since 2006 is significant, reaching 47%. This increase reflects broader trends seen in various populations regarding rising obesity rates, influenced by lifestyle factors such as diet, physical activity levels, and possibly stressors unique to service members. Recognizing a 47% rise highlights the urgent need for health interventions and policies aimed at improving nutrition and fitness within military ranks. This statistic underscores the importance of promoting healthy behaviors and wellness programs to mitigate the risks associated with overweight and obesity, which can affect overall readiness and health of Active Duty personnel.

10. Which form of diabetes is most commonly linked to obesity?

- A. Type 1 diabetes**
- B. Type 2 diabetes**
- C. Gestational diabetes**
- D. Diabetes insipidus**

Type 2 diabetes is most commonly linked to obesity due to the relationship between excess body weight and the body's ability to use insulin effectively. In Type 2 diabetes, the body develops insulin resistance, meaning that the cells no longer respond to insulin as effectively as they should. This resistance often develops as a result of several factors, with obesity being a significant contributor. When an individual is overweight or obese, especially with excess visceral fat, this fat tissue can lead to hormonal and inflammatory changes that impair insulin action. Additionally, obesity is often associated with physical inactivity and poor dietary habits, both of which further exacerbate insulin resistance. In contrast, Type 1 diabetes is an autoimmune condition that occurs when the pancreas produces little or no insulin, mainly unrelated to weight issues. Gestational diabetes typically occurs during pregnancy and is characterized by insulin resistance, but it is transient and usually resolves after childbirth. Diabetes insipidus is unrelated to blood glucose levels and involves issues with water regulation in the body rather than insulin or obesity. Thus, Type 2 diabetes stands out as the form most directly linked to obesity.