

# NCSF Nutrition and Supplementation Practice Test (Sample)

## Study Guide



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**SAMPLE**

## **Questions**

- 1. Which of the following is NOT an effect of sibutramine?**
  - A. Reduced appetite**
  - B. Increased energy levels**
  - C. Enhanced satiety**
  - D. Uptake of neurotransmitters**
- 2. How can one achieve balanced nutrition?**
  - A. By consuming predominantly carbohydrates**
  - B. By eating a variety of foods from all food groups in the right proportions**
  - C. By focusing solely on protein-rich foods**
  - D. By eliminating all fats from the diet**
- 3. Which weight loss supplement effect is supported by research findings?**
  - A. Increased appetite suppression**
  - B. Enhanced chemical agents affecting the SNS**
  - C. Improved fat synthesis**
  - D. Increased muscle mass**
- 4. Which of the following is a normal function of L-arginine?**
  - A. Aiding protein synthesis**
  - B. Increasing body fat storage**
  - C. Decreasing oxygen delivery to tissues**
  - D. Inhibiting immune function**
- 5. What type of substance is tetra-hydro-gestrinone?**
  - A. A natural steroid hormone**
  - B. A designer anabolic steroid banned by the FDA**
  - C. An alkaloid mainly used as a stimulant**
  - D. A precursor of a hormone**

- 6. Which of the following is not typically a characteristic of a balanced diet?**
- A. A wide variety of nutrients**
  - B. Limited intake of processed foods**
  - C. High consumption of sugary drinks**
  - D. Appropriate caloric intake**
- 7. What effect does increased LDL cholesterol have as an adverse effect of anabolic steroids?**
- A. Improved heart health**
  - B. Increased risk of cardiovascular disease**
  - C. Decreased blood pressure**
  - D. Enhanced blood flow**
- 8. Which of the following is a cardiovascular risk of ephedra?**
- A. Diabetes**
  - B. Myocardial infarction**
  - C. Cholesterol increase**
  - D. Insomnia**
- 9. Androgenic Anabolic Steroids (AAS) primarily promote?**
- A. Cell growth and division**
  - B. Fat loss in the body**
  - C. Increased brain function**
  - D. Decreased muscle mass**
- 10. Why is meal timing important for athletes?**
- A. It helps them to eat more frequently**
  - B. Optimizes energy levels, recovery, and muscle repair**
  - C. Minimizes calorie intake**
  - D. Reduces the need for hydration**

## **Answers**

SAMPLE

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

SAMPLE

## **Explanations**

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**1. Which of the following is NOT an effect of sibutramine?**

- A. Reduced appetite**
- B. Increased energy levels**
- C. Enhanced satiety**
- D. Uptake of neurotransmitters**

Sibutramine is a medication primarily used for weight management by suppressing appetite and enhancing satiety. Its mechanism mainly involves the inhibition of the reuptake of certain neurotransmitters such as serotonin, norepinephrine, and dopamine, which induces a feeling of fullness and reduces the desire to eat. The option related to increased energy levels does not accurately reflect the primary pharmacological effects of sibutramine. While some individuals might experience increased motivation for activity due to weight loss, it is not classified as a direct effect of the medication. Sibutramine does not stimulate energy levels as might be expected from other types of stimulants; its primary role is appetite suppression and satiety enhancement rather than serving as a source of increased energy. In contrast, the other options accurately depict the effects of sibutramine. It effectively reduces appetite and enhances feelings of fullness by altering neurotransmitter activity, which are key components in its role as an anti-obesity agent. Thus, the choice indicating increased energy levels stands out as the correct option that does not describe an effect of sibutramine.

**2. How can one achieve balanced nutrition?**

- A. By consuming predominantly carbohydrates**
- B. By eating a variety of foods from all food groups in the right proportions**
- C. By focusing solely on protein-rich foods**
- D. By eliminating all fats from the diet**

Achieving balanced nutrition involves consuming a wide variety of foods from all food groups in appropriate proportions. This approach ensures that the body receives the essential nutrients it needs for optimal functioning, including carbohydrates, proteins, fats, vitamins, and minerals. A well-rounded diet helps to support various bodily functions, including energy production, tissue repair, immune system health, and overall wellness. Consuming a variety of foods allows for the intake of different nutrients that may not be present in a single food group. For instance, fruits and vegetables provide essential vitamins and antioxidants, while whole grains offer dietary fiber and energy. Proteins, found in both animal and plant sources, are crucial for muscle development and repair. Healthy fats are important for brain health and hormone production. In contrast, focusing exclusively on one type of macronutrient, such as carbohydrates or proteins, or cutting out essential nutrients, like fats entirely, can lead to nutritional deficiencies and health issues. A balanced diet supports metabolic health and reduces the risk of chronic diseases, which underscores the importance of moderation and variety in dietary choices.

**3. Which weight loss supplement effect is supported by research findings?**

- A. Increased appetite suppression**
- B. Enhanced chemical agents affecting the SNS**
- C. Improved fat synthesis**
- D. Increased muscle mass**

The correct answer involves enhanced chemical agents affecting the sympathetic nervous system (SNS). Research has shown that certain weight loss supplements can increase the activity of the SNS, which is responsible for regulating the body's 'fight or flight' response. This can lead to an increase in energy expenditure and the oxidation of fat, contributing to weight loss. Supplements that enhance SNS activity often include stimulants like caffeine or synephrine, which can elevate metabolism and promote the mobilization of fat stores for energy. This mechanism of action is well-documented in scientific literature, underscoring the connection between SNS stimulation and weight loss outcomes. In contrast, the other options do not have the level of supporting research associated with them. Increased appetite suppression, while often claimed by some supplements, lacks strong scientific backing specific to weight loss outcomes. Improved fat synthesis is counterproductive to weight loss, focusing instead on enhancing fat storage. Increased muscle mass, while beneficial for overall metabolic rate, does not directly correlate to a supplement's effect on weight loss specifically.

**4. Which of the following is a normal function of L-arginine?**

- A. Aiding protein synthesis**
- B. Increasing body fat storage**
- C. Decreasing oxygen delivery to tissues**
- D. Inhibiting immune function**

L-arginine is an amino acid that plays several critical roles in the body, one of which is aiding in protein synthesis. It serves as a precursor to several important molecules, including nitric oxide, which is crucial for various physiological functions like vasodilation and improving blood flow. When the body synthesizes proteins, L-arginine helps with the overall process, contributing to muscle growth and repair, hormone release, and various metabolic activities. In contrast, increasing body fat storage, decreasing oxygen delivery to tissues, and inhibiting immune function are not normal functions of L-arginine. Instead, this amino acid is associated with supporting metabolic processes and promoting a healthy immune response. Its role in enhancing circulation through improved nitric oxide production also indirectly supports oxygen delivery, making it beneficial rather than detrimental to tissue oxygenation.

**5. What type of substance is tetra-hydro-gestrinone?**

- A. A natural steroid hormone**
- B. A designer anabolic steroid banned by the FDA**
- C. An alkaloid mainly used as a stimulant**
- D. A precursor of a hormone**

Tetra-hydro-gestrinone is classified as a designer anabolic steroid that has been banned by the FDA. This substance was synthesized to enhance athletic performance, mimicking the effects of anabolic steroids, but it was specifically designed to evade detection in drug tests. Its formulation allows it to promote muscle growth and strength gains similar to other anabolic steroids, but with intellectual properties adjusted to circumvent regulations. The status of tetra-hydro-gestrinone as a banned substance highlights significant concerns regarding its safety and potential for abuse, particularly in sports and bodybuilding where performance-enhancing drugs are often a topic of scrutiny. Understanding the implications of such substances is crucial for those studying the effects of nutrition and supplementation, especially in competitive environments.

**6. Which of the following is not typically a characteristic of a balanced diet?**

- A. A wide variety of nutrients**
- B. Limited intake of processed foods**
- C. High consumption of sugary drinks**
- D. Appropriate caloric intake**

A balanced diet is characterized by a variety of important factors that promote overall health and well-being. This includes the intake of a wide variety of nutrients, which ensures that the body receives essential vitamins and minerals necessary for optimal functioning. Additionally, a balanced diet typically involves limited intake of processed foods, which are often high in unhealthy fats, sugars, and preservatives, and can contribute to various health issues when consumed in excess. Another key element is maintaining an appropriate caloric intake, which helps in managing weight and providing the energy needed for daily activities. This means balancing the number of calories consumed with the number of calories expended. In contrast, high consumption of sugary drinks is not compatible with a balanced diet. Sugary drinks are often high in empty calories and can lead to increased risk of obesity, type 2 diabetes, and other health problems when consumed excessively. Therefore, this is the correct answer, as it highlights an aspect that is not typical of a balanced diet.

**7. What effect does increased LDL cholesterol have as an adverse effect of anabolic steroids?**

- A. Improved heart health**
- B. Increased risk of cardiovascular disease**
- C. Decreased blood pressure**
- D. Enhanced blood flow**

Increased LDL cholesterol levels are associated with a higher risk of cardiovascular disease because LDL (low-density lipoprotein) is often referred to as "bad cholesterol." When anabolic steroids are used, especially in excessive amounts, they can disrupt lipid metabolism, leading to elevated LDL cholesterol levels. High LDL cholesterol can contribute to the development of atherosclerosis, a condition where plaque builds up in the arteries, narrowing them and impeding blood flow. This impairment of blood flow can increase the risk of serious cardiovascular events such as heart attacks and strokes. Additionally, the overall balance of cholesterol in the body can be negatively affected, with a decrease in HDL (high-density lipoprotein, or "good cholesterol") which helps clear LDL cholesterol from the bloodstream. Thus, the rise in LDL due to steroid use significantly correlates with adverse cardiovascular outcomes, making the link between elevated LDL cholesterol and increased risk of cardiovascular disease particularly important in understanding the health implications of anabolic steroid use.

**8. Which of the following is a cardiovascular risk of ephedra?**

- A. Diabetes**
- B. Myocardial infarction**
- C. Cholesterol increase**
- D. Insomnia**

Myocardial infarction, commonly known as a heart attack, is a significant cardiovascular risk associated with the use of ephedra. Ephedra contains alkaloids that can stimulate the nervous system and increase heart rate and blood pressure, potentially leading to serious cardiovascular events. The overstimulation of the heart can contribute to the development of arrhythmias, which might escalate to myocardial infarction, especially in individuals with pre-existing heart conditions or those who consume higher doses. Understanding this risk is particularly crucial as it highlights the importance of caution when considering stimulants like ephedra, especially for those with cardiovascular issues or risk factors. The other options do not specifically relate to the direct cardiovascular risks posed by ephedra. While diabetes can be influenced by various factors and cholesterol levels can also be affected by multiple lifestyle choices, they are not direct consequences of ephedra use. Insomnia is a common side effect due to the stimulating nature of ephedra but doesn't constitute a cardiovascular risk in the same manner as myocardial infarction. This distinction is vital for effective understanding of the risks linked to ephedra in the context of cardiovascular health.

## 9. Androgenic Anabolic Steroids (AAS) primarily promote?

- A. Cell growth and division**
- B. Fat loss in the body
- C. Increased brain function
- D. Decreased muscle mass

Androgenic anabolic steroids (AAS) primarily promote cell growth and division, particularly in muscle tissues. These substances are synthetic derivatives of testosterone, which is responsible for muscle hypertrophy and the development of male secondary sexual characteristics. AAS enhances protein synthesis and nitrogen retention in muscle, which contributes to increased muscle mass and strength. This mechanism of action is crucial for athletes and bodybuilders seeking to improve performance and physical appearance. While AAS might indirectly influence other factors such as body composition, their main function is to promote anabolic effects at the cellular level, leading to significant muscle growth and recovery. This fundamental property distinguishes them from other effects such as fat loss or brain function enhancement, which are not the primary roles of AAS.

## 10. Why is meal timing important for athletes?

- A. It helps them to eat more frequently
- B. Optimizes energy levels, recovery, and muscle repair**
- C. Minimizes calorie intake
- D. Reduces the need for hydration

Meal timing is critical for athletes primarily because it plays a significant role in optimizing energy levels, enhancing recovery, and supporting muscle repair. Properly timed meals can ensure that athletes have adequate fuel before workouts, which helps to maximize their performance during training and competitions. Consuming the right nutrients at appropriate times—such as carbohydrates for energy and protein for muscle repair—can lead to better athletic outcomes. For example, consuming carbohydrates before an event helps to provide the necessary energy, while protein intake post-exercise aids in muscle recovery and repair. This strategic timing can help athletes prevent fatigue, reduce the risk of injury, and improve overall performance. While other options might hint at aspects related to nutrition, they do not capture the holistic benefits of meal timing in the context of athletic performance. For instance, merely eating more frequently doesn't necessarily correlate with optimized performance, nor does minimizing calorie intake or reducing the need for hydration adequately address the complexities of an athlete's nutrition strategy. Therefore, focusing on optimal meal timing is essential for supporting all phases of an athlete's training regimen.