

SACE Stage 1 Nutrition Practice Exam (Sample)

Study Guide



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Questions

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- 1. Which symptom is associated with hypoglycaemia?**
 - A. Frequent urination**
 - B. Tiredness**
 - C. Shakiness**
 - D. Blurred vision**
- 2. Which statement about trans fatty acids is true?**
 - A. They are always found in plant-based foods**
 - B. They can increase LDL cholesterol levels**
 - C. They are necessary for cell metabolism**
 - D. They are a good source of energy**
- 3. What does BMI stand for, and what is its primary purpose?**
 - A. Body Mass Index; a measure of body fat**
 - B. Body Mass Indicator; a gauge of physical strength**
 - C. Body Metabolism Index; used to calculate calorie needs**
 - D. Body Measurement Index; to assess height to weight ratio**
- 4. Which of the following is a sign of hyperglycaemia?**
 - A. Dizziness**
 - B. Hunger**
 - C. Frequent urination**
 - D. Nervousness**
- 5. What is the recommended intake range for protein?**
 - A. 10 - 15%**
 - B. 15 - 25%**
 - C. 20 - 30%**
 - D. 25 - 35%**
- 6. Which of the following is a dietary guideline for portion control?**
 - A. Drink more water before meals**
 - B. Limit the number of meals per day**
 - C. Use smaller plates and bowls**
 - D. Always finish everything on your plate**

- 7. What role do minerals play in body function?**
- A. They provide energy for physical activities**
 - B. They are crucial for bone health, enzymatic reactions, and maintaining fluid balance**
 - C. They are the primary source of dietary fiber**
 - D. They help build and repair muscles**
- 8. What carbohydrate is found in significant amounts in grains?**
- A. Glucose**
 - B. Fructose**
 - C. Maltose**
 - D. Galactose**
- 9. What is the recommended intake for fat?**
- A. 20%**
 - B. 25%**
 - C. 30%**
 - D. Less than 30%**
- 10. What are common symptoms observed in individuals with Type 1 diabetes?**
- A. Increased appetite and frequent headaches**
 - B. Thirst, excessive urination, weakness, and fatigue**
 - C. Nausea and vomiting after meals**
 - D. Severe muscle cramps and joint pain**

Answers

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

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Explanations

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1. Which symptom is associated with hypoglycaemia?

- A. Frequent urination
- B. Tiredness
- C. Shakiness**
- D. Blurred vision

Hypoglycemia, characterized by abnormally low blood glucose levels, can lead to a range of symptoms as the body responds to the lack of glucose, which is a primary energy source. Shakiness is a common symptom associated with hypoglycemia because when the blood sugar falls, the body releases adrenaline (epinephrine) in an effort to raise blood sugar levels. This release can trigger physical responses such as trembling or shakiness as part of the fight-or-flight response. In contrast, while tiredness may happen when blood sugar is low due to insufficient energy available for bodily functions, it is not as immediate or definitive a symptom as shakiness. Frequent urination is typically related to high blood sugar (hyperglycemia) or conditions like diabetes, rather than low blood sugar. Blurred vision can occur with significant fluctuations in blood sugar levels but is more commonly associated with prolonged hyperglycemia. Thus, shakiness is the most direct symptom linked to the rapid physiological response of hypoglycemia.

2. Which statement about trans fatty acids is true?

- A. They are always found in plant-based foods
- B. They can increase LDL cholesterol levels**
- C. They are necessary for cell metabolism
- D. They are a good source of energy

Trans fatty acids are primarily known for their detrimental impact on health, particularly regarding cholesterol levels. When consumed, trans fats can lead to an increase in low-density lipoprotein (LDL) cholesterol, commonly referred to as "bad" cholesterol. Higher levels of LDL cholesterol are associated with an increased risk of heart disease and other cardiovascular conditions. This increase is a significant concern in dietary guidelines, which aim to limit the intake of trans fats due to their negative effects on lipid profiles and overall heart health. It's crucial for individuals to be aware of the sources of trans fatty acids, often found in partially hydrogenated oils used in processed foods, and to understand their harmful impacts to make informed dietary choices. The other statements do not accurately reflect the characteristics of trans fatty acids. While some trans fats can be found in certain plant-based foods due to processing methods, they are not exclusively present in these foods. Trans fats are not necessary for cell metabolism, as there are healthier fatty acid alternatives that fulfill metabolic needs. Additionally, although fats in general are a source of energy, trans fats specifically are not considered a good source of energy due to their health risks.

3. What does BMI stand for, and what is its primary purpose?

- A. Body Mass Index; a measure of body fat**
- B. Body Mass Indicator; a gauge of physical strength**
- C. Body Metabolism Index; used to calculate calorie needs**
- D. Body Measurement Index; to assess height to weight ratio**

The correct answer identifies BMI as Body Mass Index, which is primarily a measure of body fat based on a person's weight in relation to their height. The formula for calculating BMI involves dividing a person's weight in kilograms by the square of their height in meters, providing a numerical value that can help categorize individuals as underweight, normal weight, overweight, or obese. This categorization is important in assessing potential health risks associated with being outside of the normal weight range. Using BMI is beneficial for healthcare professionals to quickly gauge whether a person may be at risk for weight-related health issues, such as diabetes, heart disease, and certain cancers. The simplicity of the calculation makes it a widely accepted tool for assessing body fat in populations and for individual screening. The other choices provide different interpretations of what BMI might stand for or its purpose, which does not align with the established definition and usage of Body Mass Index. For instance, calling it a Body Mass Indicator or associating it with physical strength or metabolism does not accurately reflect its purpose in measuring body fat. Additionally, referring to it as a Body Measurement Index misses the primary function of assessing weight relative to height, rather than solely focusing on measurements.

4. Which of the following is a sign of hyperglycaemia?

- A. Dizziness**
- B. Hunger**
- C. Frequent urination**
- D. Nervousness**

Frequent urination is a well-known sign of hyperglycaemia, which refers to higher than normal levels of glucose in the blood. When blood glucose levels rise significantly, the kidneys attempt to excrete the excess sugar through urine, leading to increased urination. This process can lead to dehydration and may compound the symptoms associated with hyperglycaemia. The other options, such as dizziness, hunger, and nervousness, can potentially be associated with a range of conditions, including low blood sugar (hypoglycaemia) or stress responses, and are not specific indicators of hyperglycaemia. Frequent urination specifically highlights the body's attempt to manage elevated blood glucose levels, making it the most indicative sign of hyperglycaemia in this context.

5. What is the recommended intake range for protein?

- A. 10 - 15%
- B. 15 - 25%**
- C. 20 - 30%
- D. 25 - 35%

The recommended intake range for protein is typically around 10% to 35% of total daily calories, but the most commonly cited guidelines for a balanced diet suggest that protein is best maintained within the 15% to 25% range. This level supports the body's protein needs for maintenance, growth, and repair, especially in populations with varying requirements, such as athletes and growing children. Consuming protein within this range helps ensure an adequate intake of essential amino acids while also allowing for a balanced intake of carbohydrates and fats, which are also vital for overall health. The selected range strikes a balance that supports muscle synthesis, hormonal production, and immune function without excessive intake that might lead to negative health outcomes. Protein is an essential macronutrient, and adhering to these recommendations helps people meet their nutritional needs effectively while reducing the risk of potential side effects associated with both inadequate and excessive protein consumption.

6. Which of the following is a dietary guideline for portion control?

- A. Drink more water before meals
- B. Limit the number of meals per day
- C. Use smaller plates and bowls**
- D. Always finish everything on your plate

Using smaller plates and bowls is an effective dietary guideline for portion control as it can influence the amount of food consumed. When people use smaller dishware, it often leads to serving and eating smaller portions, which can help prevent overeating. The visual cue of a fuller plate on a smaller dish can create a perception of satisfaction, even if the actual amount of food is less. This method leverages the psychology of portion size, making it a practical strategy for managing caloric intake without the need for measuring food or restricting choices drastically. The other suggestions, while they may have their respective benefits for overall health, do not directly align with the principle of portion control. For example, drinking more water before meals can aid in hydration and possibly reduce appetite, but it does not specifically address the size of the portions eaten. Limiting the number of meals per day pertains more to meal frequency rather than controlling the portions consumed during each meal. Additionally, the idea of always finishing everything on your plate can encourage overeating, countering the goal of portion control. Therefore, using smaller plates and bowls stands out as the best strategy for managing portion sizes effectively.

7. What role do minerals play in body function?

- A. They provide energy for physical activities
- B. They are crucial for bone health, enzymatic reactions, and maintaining fluid balance**
- C. They are the primary source of dietary fiber
- D. They help build and repair muscles

Minerals are essential nutrients that play a vital role in numerous physiological functions within the body. Their importance extends across several key areas, which is why the selected answer is the most appropriate. Firstly, minerals such as calcium and phosphorus are fundamental for maintaining bone health. They contribute to the structural integrity of bones and teeth, facilitating growth and maintenance throughout life. Additionally, minerals like magnesium and vitamin D (which works with calcium) help regulate bone density and strength. Secondly, minerals are crucial for enzymatic reactions. Many enzymes, which act as catalysts for biochemical reactions, require specific minerals as cofactors to function effectively. For instance, zinc, magnesium, and selenium are essential for various metabolic processes, including energy production and the synthesis of DNA and proteins. Lastly, minerals play a significant role in maintaining fluid balance within the body. Electrolytes, such as sodium, potassium, and chloride, help regulate hydration levels, nerve function, and muscle contractions. This balance is critical for overall homeostasis and proper functioning of cells. In contrast, the other options do not accurately represent the primary roles of minerals. Energy for physical activities mainly comes from macronutrients like carbohydrates, fats, and proteins. Dietary fiber is primarily sourced from plant-based foods and is not made

8. What carbohydrate is found in significant amounts in grains?

- A. Glucose
- B. Fructose
- C. Maltose**
- D. Galactose

The correct carbohydrate found in significant amounts in grains is maltose. Maltose, also known as malt sugar, is a disaccharide composed of two glucose molecules and is commonly found in malted grains and cereal products. During the digestion and fermentation processes of grains, especially barley, enzymes breakdown starches into maltose, which can further be converted into glucose for energy. Grains like wheat, barley, and rice are primarily composed of starch, which is a polysaccharide. During enzymatic action, these starches yield maltose as an intermediate product before being broken down completely into glucose molecules, which the body can readily use. This is particularly relevant in the brewing and baking industries, where maltose plays a crucial role in fermentation. Other carbohydrates such as glucose, fructose, and galactose are also present in various food sources, but they do not primarily characterize grains. Glucose is a monosaccharide that can be released during the digestion of starch and is present in fruits, while fructose is predominantly found in fruits and honey. Galactose is primarily associated with lactose in dairy products rather than grains. Hence, maltose is specifically notable for its significant presence in grains during their processing and digestion.

9. What is the recommended intake for fat?

- A. 20%
- B. 25%
- C. 30%
- D. Less than 30%**

The recommended intake for fat being less than 30% of total daily energy intake aligns with dietary guidelines that suggest a balanced approach to fat consumption for optimal health. This recommendation emphasizes the importance of limiting dietary fat to reduce the risk of chronic diseases, including heart disease and obesity. When dietary fat is kept below 30%, it allows for a greater focus on consuming healthier foods that are nutrient-dense, such as fruits, vegetables, whole grains, and lean proteins, which can help achieve a well-rounded diet. This recommendation also takes into account the different types of dietary fats. It encourages individuals to limit saturated fats and trans fats, while promoting unsaturated fats, which can be beneficial for heart health. This guideline supports overall health objectives, including maintaining a healthy weight and promoting cardiovascular health, making it essential for individuals to consider the proportion of fat in their diet thoughtfully. Adopting this lower fat intake can lead to more balanced nutrition and better health outcomes in the long term.

10. What are common symptoms observed in individuals with Type 1 diabetes?

- A. Increased appetite and frequent headaches
- B. Thirst, excessive urination, weakness, and fatigue**
- C. Nausea and vomiting after meals
- D. Severe muscle cramps and joint pain

Individuals with Type 1 diabetes often present with symptoms that arise from high blood glucose levels, also known as hyperglycemia, which occurs due to the lack of insulin production by the pancreas. The correct answer highlights thirst, excessive urination, weakness, and fatigue as common symptoms. The intense thirst (polydipsia) develops because high blood glucose levels lead the body to pull water from tissues to dilute the glucose in the bloodstream, leading to dehydration. As a consequence, excessive urination (polyuria) occurs as the kidneys attempt to excrete the excess glucose along with the water. This process can result in overall weakness and fatigue, as the body is not able to utilize glucose effectively for energy due to the insufficient insulin. Understanding these symptoms is crucial for early detection and management of Type 1 diabetes, ultimately helping to prevent complications associated with the disease. The other symptoms listed in the other options, while they may relate to different health issues or complications, do not distinctly characterize the classic presentation of Type 1 diabetes. This specificity is important for recognizing and responding to this condition effectively.