

# Advanced Dietetics Concepts

Dietetics · Practice Test · 20 Questions

---

**1. Which of the following vitamins is primarily involved in the synthesis of collagen, a crucial protein for connective tissues?**

- A) Vitamin A
- B) Vitamin C (Ascorbic Acid)
- C) Vitamin D
- D) Vitamin E

**2. The primary site for gluconeogenesis, the metabolic pathway that generates glucose from non-carbohydrate precursors, is predominantly located in which organ?**

- A) Skeletal muscle
- B) Adipose tissue
- C) Liver
- D) Kidneys

**3. Which mineral is essential for oxygen transport by hemoglobin and myoglobin, and its deficiency leads to iron-deficiency anemia?**

- A) Calcium
- B) Magnesium
- C) Zinc
- D) Iron

**4. The Recommended Dietary Allowance (RDA) for a nutrient is defined as:**

- A) The average daily intake level that is likely to meet the nutrient requirements of nearly all (97-98%) healthy individuals in a particular life stage and gender group.
- B) The intake level that is sufficient to meet the nutrient requirements of half the healthy individuals in a particular life stage and gender group.
- C) The highest level of daily nutrient intake that is likely to pose no risk of adverse health effects for almost all individuals in the general population.
- D) A range of intakes between the Estimated Average Requirement (EAR) and the Tolerable Upper Intake Level (UL).

**5. Which B vitamin is a precursor for the coenzyme acetyl-CoA, which plays a central role in carbohydrate, fat, and protein metabolism?**

- A) Thiamin (B1)
- B) Riboflavin (B2)
- C) Niacin (B3)
- D) Pantothenic acid (B5)

**6. The process by which the body converts excess carbohydrates and proteins into fatty acids for storage is known as:**

- A) Glycogenolysis
- B) Lipogenesis
- C) Beta-oxidation
- D) Ketogenesis

**7. Which fat-soluble vitamin is essential for blood clotting by facilitating the synthesis of prothrombin and other clotting factors?**

- A) Vitamin A
- B) Vitamin E
- C) Vitamin K
- D) Vitamin D

**8. A deficiency in iodine can lead to which of the following endocrine disorders?**

- A) Diabetes Mellitus
- B) Cushing's Syndrome
- C) Hypothyroidism (Goiter)
- D) Addison's Disease

**9. Which of the following is a key function of dietary fiber in the digestive system?**

- A) Absorption of fat-soluble vitamins
- B) Stimulation of bile production
- C) Regulation of bowel movements and prevention of constipation
- D) Production of hydrochloric acid

**10. The process of breaking down stored glycogen into glucose is called:**

- A) Glycogenesis
- B) Gluconeogenesis
- C) Glycogenolysis
- D) Lipolysis

**11. Which trace mineral is crucial for the functioning of thyroid hormones and is often found in seafood and iodized salt?**

- A) Selenium
- B) Zinc
- C) Copper
- D) Iodine

**12. The Cori cycle involves the interconversion of lactate and glucose between which two organs?**

- A) Liver and brain
- B) Muscle and adipose tissue
- C) Liver and muscle
- D) Kidney and heart

**13. Which amino acid is considered conditionally essential and is a precursor for the synthesis of neurotransmitters like serotonin?**

- A) Leucine
- B) Tyrosine
- C) Tryptophan
- D) Valine

**14. The primary role of Vitamin D in the body is to facilitate the absorption of which mineral?**

- A) Iron
- B) Magnesium
- C) Calcium
- D) Potassium

**15. Which metabolic pathway produces adenosine triphosphate (ATP) primarily through the stepwise oxidation of glucose?**

- A) Krebs Cycle
- B) Electron Transport Chain
- C) Glycolysis
- D) Beta-oxidation

**16. Which of the following is a key characteristic of omega-3 fatty acids?**

- A) They contain double bonds at the methyl end of the carbon chain.
- B) They are typically solid at room temperature.
- C) They have anti-inflammatory properties.
- D) They are saturated with hydrogen atoms.

**17. The Tolerable Upper Intake Level (UL) for a nutrient is:**

- A) The minimum intake level required to prevent deficiency.
- B) The average daily intake level that meets the needs of most people.
- C) The maximum daily intake unlikely to cause adverse health effects.
- D) A recommended range for optimal health.

**18. Which vitamin is involved in the synthesis of nucleic acids (DNA and RNA) and is essential for cell division?**

- A) Vitamin K
- B) Folate (B9)
- C) Vitamin E
- D) Biotin (B7)

**19. The process of converting amino acids into glucose when carbohydrate stores are depleted is known as:**

- A) Deamination and gluconeogenesis
- B) Transamination and ketogenesis
- C) Deamination and ureagenesis
- D) Proteolysis and catabolism

**20. Which micronutrient is a component of many enzymes involved in antioxidant defense, such as superoxide dismutase?**

- A) Manganese
- B) Molybdenum
- C) Chromium
- D) Vanadium