

Advanced Nutritional Science

Nutrition & Food Science · Answer Key · 10 Questions

1. Which specific fatty acid is considered a precursor for the synthesis of eicosanoids, specifically the 2-series prostaglandins and 4-series leukotrienes?

- A) Alpha-linolenic acid
- B) Arachidonic acid**
- C) Oleic acid
- D) Stearic acid

2. In the context of the Maillard reaction, which specific amino acid is most commonly responsible for the formation of acrylamide when heated in the presence of reducing sugars?

- A) Asparagine**
- B) Glutamine
- C) Lysine
- D) Glycine

3. Which vitamin functions primarily as a coenzyme in the form of thiamine pyrophosphate (TPP) for the oxidative decarboxylation of alpha-keto acids?

- A) Vitamin B2
- B) Vitamin B1**
- C) Vitamin B6
- D) Vitamin B12

4. What is the chemical name of the primary pigment responsible for the purple color in anthocyanin-rich foods, which changes color based on pH?

- A) Cyanidin**
- B) Carotene
- C) Lutein
- D) Zeaxanthin

5. Which hormone is secreted by the P/D1 cells of the fundus of the human stomach to stimulate appetite and increase food intake?

- A) Leptin
- B) Ghrelin**
- C) Cholecystokinin
- D) Peptide YY

6. What is the primary protein found in egg whites that acts as a protease inhibitor and is known to be a common allergen?

- A) Ovalbumin
- B) Ovomucoid**
- C) Conalbumin
- D) Avidin

7. Which mineral is a required cofactor for the enzyme glutathione peroxidase, which protects cells from oxidative damage?

- A) Selenium**
- B) Zinc
- C) Manganese
- D) Copper

8. During the process of lipid digestion, which enzyme is responsible for the hydrolysis of dietary triglycerides into monoglycerides and free fatty acids in the small intestine?

- A) Lingual lipase
- B) Gastric lipase
- C) Pancreatic lipase**
- D) Lipoprotein lipase

9. Which disaccharide is composed of one glucose molecule and one galactose molecule linked by a beta-1,4-glycosidic bond?

- A) Sucrose
- B) Maltose
- C) Lactose**
- D) Trehalose

10. What is the limiting amino acid in most cereal grains, such as wheat and rice?

- A) Lysine**
- B) Methionine
- C) Tryptophan
- D) Leucine