

B 1.2 Proteins SL MC

1. What four components are attached to the alpha carbon of a generalized amino acid?

- A. Amine group, carboxyl group, phosphate group, and R-group
- B. Amine group, carboxyl group, hydrogen, and R-group
- C. Carboxyl group, hydroxyl group, R-group, and hydrogen
- D. Carboxyl group, phosphate group, amine group, and hydrogen

2. What reaction forms dipeptides from amino acids?

- A. Hydrolysis reaction
- B. Oxidation reaction
- C. Condensation reaction
- D. Reduction reaction

3. During a condensation reaction between two amino acids, what molecule is removed?

- A. Carbon dioxide (CO₂)
- B. Oxygen (O₂)
- C. Water (H₂O)
- D. Ammonia (NH₃)

4. What bond is formed between two amino acids in a dipeptide?

- A. Glycosidic bond
- B. Ester bond
- C. Hydrogen bond
- D. Peptide bond

5. Why are essential amino acids important in the diet?

- A. They are stored in the liver.
- B. They cannot be synthesized by the body.
- C. They can only be made from vitamins.
- D. They are converted to energy directly.

6. Which of the following describes non-essential amino acids?

- A. They cannot be synthesized by the body.
- B. They must be obtained from dietary sources.
- C. They can be synthesized from other amino acids.
- D. They do not form peptide chains.

7. How many amino acids are coded for in the genetic code?

- A. 16
- B. 18
- C. 20
- D. 22

8. Which of the following can denature a protein?

- A. Change in light intensity
- B. Increase in oxygen concentration
- C. Alteration in pH or temperature
- D. Reduction in glucose levels

9. What is a characteristic of a polypeptide?

- A. It always contains 20 amino acids.
- B. It can have any number of amino acids in any sequence.
- C. It is always a protein.
- D. It must be folded into a 3D structure to exist.

10. Which of the following statements about vegan diets and amino acids is correct?

- A. Vegans must avoid all amino acids.
- B. Vegans can synthesize essential amino acids in their body.
- C. Vegans need to consume a variety of foods to obtain essential amino acids.
- D. Vegans do not require protein in their diets.

Answers

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