Fundamentals of Biochemistry

Biochemistry · Practice Test · 15 Questions

1. Which macromolecule is primarily responsible for providing long-term energy storage in animals?

A) Proteins
B) Nucleic acids
C) Lipids
D) Monosaccharides

2. What is the primary function of an enzyme in a biological reaction?

A) To act as a reactant
B) To lower the activation energy
C) To increase the activation energy
D) To change the final product

3. Which nitrogenous base is found in RNA but not in DNA?

A) Cytosine
B) Guanine
C) Thymine
D) Uracil

4. What are the building blocks (monomers) of proteins?

A) Amino acids
B) Nucleotides
C) Fatty acids
D) Monosaccharides

5. In which part of the cell does the Krebs cycle (Citric Acid Cycle) take place?

A) Cytoplasm
B) Nucleus
C) Mitochondria
D) Ribosome

6. Which sugar is commonly known as 'blood sugar' and serves as the primary energy source for human cells?

A) Fructose
B) Glucose
C) Lactose
D) Sucrose

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7. What is the chemical process by which monomers are joined to form polymers while releasing a water molecule?

A) Hydrolysis
B) Dehydration synthesis
C) Oxidation
D) Reduction

8. Which type of bond holds the two strands of the DNA double helix together?

A) Ionic bond
B) Covalent bond
C) Hydrogen bond
D) Metallic bond

9. Which vitamin is water-soluble and essential for collagen synthesis?

A) Vitamin A
B) Vitamin D
C) Vitamin C
D) Vitamin E

10. What is the name of the iron-containing protein in red blood cells that transports oxygen?

A) Hemoglobin
B) Myoglobin
C) Albumin
D) Keratin

11. Which cellular process produces the most ATP during aerobic respiration?

A) Glycolysis
B) Fermentation
C) Electron transport chain
D) Krebs cycle

12. What defines a saturated fatty acid?

A) It has double bonds between carbon atoms
B) It has no double bonds between carbon atoms
C) It is liquid at room temperature
D) It is found only in plants

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13. Which molecule carries genetic instructions from the nucleus to the ribosomes?

A) mRNA
B) tRNA
C) rRNA
D) DNA

14. What is the pH level of a neutral solution?

A) 0
B) 7
C) 10
D) 14

15. Which element is the central component of all organic molecules?

A) Nitrogen
B) Oxygen
C) Carbon
D) Hydrogen

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