Biochemistry and Human Health

Chemistry · Answer Key · 8 Questions

1. Which chemical element makes up the largest percentage of the human body by mass?

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

2. Which acid is the primary chemical component of gastric juice in the human stomach?

A) Sulfuric acid
B) Acetic acid
C) Hydrochloric acid
D) Nitric acid

3. Which metal ion sits at the center of the heme molecule in hemoglobin to bind oxygen?

A) Iron
B) Copper
C) Zinc
D) Magnesium

4. Which chemical system is primarily responsible for maintaining the pH of human blood within a tight range of 7.35 to 7.45?

A) Phosphate buffer system
B) Bicarbonate buffer system
C) Acetate buffer system
D) Citrate buffer system

5. Which chemical element is essential for the thyroid gland to produce hormones that regulate metabolism?

A) Iodine
B) Selenium
C) Potassium
D) Calcium

6. Human bone matrix and tooth enamel are primarily composed of a crystalline mineral known as what?

A) Calcite
B) Gypsum
C) Hydroxyapatite
D) Fluorite

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7. Which molecule serves as the principal high-energy chemical currency for standard cell processes?

A) Glucose

B) Adenosine triphosphate (ATP)

C) Deoxyribonucleic acid (DNA)

D) Cholesterol

8. Carbon monoxide is toxic to humans because it binds to hemoglobin with an affinity approximately how many times greater than oxygen?

A) 2 times

B) 10 times

C) 200 times

D) 5,000 times