

Advanced Human Biology and Health

Human Biology · Practice Test · 15 Questions

1. Which hormone is primarily responsible for the regulation of blood calcium levels by stimulating osteoclast activity?

- A) Calcitonin
- B) Parathyroid hormone
- C) Thyroxine
- D) Aldosterone

2. What is the primary function of the proximal convoluted tubule in the human nephron?

- A) Reabsorption of water and solutes
- B) Filtration of blood cells
- C) Active secretion of urea
- D) Concentration of urine

3. Which part of the brain is the primary integration center for the autonomic nervous system and homeostatic regulation?

- A) Cerebellum
- B) Thalamus
- C) Hypothalamus
- D) Medulla oblongata

4. In the human cardiac cycle, what is the event that corresponds to the closing of the atrioventricular valves?

- A) Ventricular systole
- B) Atrial diastole
- C) Ventricular diastole
- D) Isovolumetric relaxation

5. Which immunoglobulin is the most abundant in the human circulatory system, accounting for approximately 80% of total antibodies?

- A) IgA
- B) IgE
- C) IgM
- D) IgG

6. What is the specific role of surfactant produced by type II alveolar cells?

- A) To filter dust particles
- B) To reduce surface tension in alveoli
- C) To increase CO₂ diffusion
- D) To produce mucus

7. Which protein is the most abundant in the human body, providing structural support to skin, tendons, and ligaments?

- A) Keratin
- B) Myosin
- C) Collagen
- D) Actin

8. Where does the chemical digestion of disaccharides such as lactose and sucrose primarily occur?

- A) Stomach
- B) Esophagus
- C) Small intestine brush border
- D) Large intestine

9. What is the effect of an increase in blood carbon dioxide levels on the pH of cerebrospinal fluid?

- A) Increases pH
- B) Decreases pH
- C) Has no effect
- D) Neutralizes pH

10. Which cell type in the islets of Langerhans is responsible for the secretion of glucagon?

- A) Alpha cells
- B) Beta cells
- C) Delta cells
- D) Gamma cells

11. What is the primary site of hematopoiesis in a healthy adult human?

- A) Liver
- B) Spleen
- C) Yellow bone marrow
- D) Red bone marrow

12. Which cranial nerve is responsible for the parasympathetic innervation of the heart, lungs, and digestive tract?

- A) Trigeminal nerve
- B) Vagus nerve
- C) Glossopharyngeal nerve
- D) Facial nerve

13. What is the structural unit of compact bone, consisting of concentric layers of calcified matrix?

- A) Trabeculae
- B) Lacunae
- C) Osteons
- D) Canaliculi

14. Which fat-soluble vitamin is essential for the synthesis of clotting factors II, VII, IX, and X in the liver?

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

15. What occurs during the depolarization phase of an action potential in a neuron?

- A) Potassium ions exit the cell
- B) Sodium ions enter the cell
- C) Chloride ions enter the cell
- D) Calcium ions exit the cell