Advanced Human Physiology and Health

Life Science · Answer Key · 15 Questions

1. Which specific hormone is primarily responsible for the stimulation of osteoclasts to increase serum calcium levels?

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

2. What is the functional unit of the kidney responsible for the filtration of blood and the formation of urine?

A) Glomerulus
B) Nephron
C) Ureter
D) Renal pelvis

3. In the human cardiac cycle, the 'lub' sound corresponds to the closure of which valves?

A) Aortic and pulmonary valves
B) Mitral and tricuspid valves
C) Aortic and mitral valves
D) Pulmonary and tricuspid valves

4. The primary site of lipid digestion in the human digestive system is the:

A) Stomach
B) Esophagus
C) Small intestine
D) Large intestine

5. Which protein is the most abundant in the human body, providing structural integrity to connective tissues?

A) Keratin
B) Myosin
C) Collagen
D) Elastin

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6. What is the name of the process by which glucose is broken down into pyruvate in the cytoplasm of the cell?

A) Krebs cycle
B) Glycolysis
C) Oxidative phosphorylation
D) Gluconeogenesis

7. Which leukocyte type is the first to arrive at the site of acute inflammation and is highly phagocytic?

A) Basophil
B) Eosinophil
C) Neutrophil
D) Lymphocyte

8. The structure within the inner ear that converts mechanical vibrations into nerve impulses is the:

A) Cochlea
B) Semicircular canals
C) Stapes
D) Tympanic membrane

9. Which mineral is a crucial cofactor for over 300 enzymatic reactions in the body and is essential for DNA synthesis?

A) Iron
B) Magnesium
C) Calcium
D) Potassium

10. What is the primary function of the myelin sheath in peripheral neurons?

A) To produce neurotransmitters
B) To increase the speed of action potential conduction
C) To store glucose for energy
D) To provide structural support to the cell body

11. Which specific immunoglobulin is the most abundant in the human circulatory system, accounting for about 75-80% of all antibodies?

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

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12. The conversion of fibrinogen to fibrin during blood coagulation is catalyzed by which enzyme?

A) Plasmin
B) Thrombin
C) Heparin
D) Prothrombin

13. Which lobe of the human brain is primarily responsible for processing visual information?

A) Frontal lobe
B) Parietal lobe
C) Temporal lobe
D) Occipital lobe

14. What is the term for the total volume of air that can be exhaled after a maximal inhalation?

A) Tidal volume
B) Vital capacity
C) Residual volume
D) Inspiratory reserve volume

15. Which of the following cells are responsible for the production of insulin in the islets of Langerhans?

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

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