

Elementary Exercise Science Mastery

Exercise Science · Answer Key · 15 Questions

1. Which of the following describes the primary function of the cardiovascular system during intense physical exercise?

- A) To store excess energy in muscles
- B) To decrease the volume of blood in the limbs
- C) To increase the delivery of oxygenated blood to working muscles**
- D) To reduce the rate of CO₂ removal

2. What is the biological term for the involuntary contraction of muscles that generates heat when the body is cold?

- A) Homeostasis
- B) Shivering thermogenesis**
- C) Vasodilation
- D) Aerobic respiration

3. Which type of muscle tissue is responsible for voluntary movement of the human skeleton?

- A) Skeletal muscle**
- B) Cardiac muscle
- C) Smooth muscle
- D) Visceral muscle

4. What is the primary energy source used by muscles for high-intensity, short-duration activities?

- A) Fatty acids
- B) Adenosine Triphosphate (ATP)**
- C) Fiber
- D) Vitamin C

5. Which organ is responsible for filtering waste products from the blood during exercise?

- A) Liver
- B) Kidneys**
- C) Pancreas
- D) Gallbladder

6. What happens to the heart rate immediately following the cessation of vigorous physical activity?

- A) It stops instantly
- B) It remains at its maximum peak
- C) It gradually decreases toward the resting heart rate**
- D) It accelerates to prevent blood pooling

7. Which nutrient is most essential for repairing and rebuilding muscle tissue after strength training?

- A) Carbohydrates
- B) Proteins**
- C) Fats
- D) Simple sugars

8. What is the primary function of ligaments in the human body?

- A) To connect muscle to bone
- B) To connect bone to bone**
- C) To store calcium
- D) To transmit nerve impulses

9. In exercise science, what does 'aerobic' literally mean?

- A) Without oxygen
- B) With oxygen**
- C) Burning fat
- D) High speed

10. Which part of the brain is primarily responsible for coordinating balance and complex movement patterns?

- A) Cerebrum
- B) Cerebellum**
- C) Brain stem
- D) Hypothalamus

11. What is the purpose of synovial fluid in the human joint system?

- A) To provide structural support
- B) To lubricate the joint and reduce friction**
- C) To generate heat
- D) To transmit oxygen

12. Which blood vessels are responsible for carrying oxygenated blood away from the heart to the muscles?

- A) Veins
- B) Capillaries
- C) Arteries**
- D) Venules

13. What is the definition of 'flexibility' in a fitness context?

- A) The ability of a muscle to exert force
- B) The range of motion possible around a joint**
- C) The speed of muscular contraction
- D) The heart's ability to pump blood

14. During respiration, which gas is exhaled as a byproduct of cellular energy production?

- A) Oxygen
- B) Nitrogen
- C) Carbon dioxide**
- D) Hydrogen

15. Which mineral is essential for the contraction of muscle fibers and the strengthening of bone density?

- A) Iron
- B) Calcium**
- C) Potassium
- D) Sodium