

Fundamentals of Exercise Science

Exercise Science · Practice Test · 18 Questions

1. Which organ system is primarily responsible for transporting oxygen to working muscles during exercise?

- A) Digestive system
- B) Cardiovascular system
- C) Endocrine system
- D) Nervous system

2. What is the primary energy substrate used for high-intensity, short-duration exercise?

- A) Stored glycogen
- B) Adipose tissue
- C) Dietary fiber
- D) Vitamins

3. Which type of muscle contraction occurs when the muscle lengthens while under tension?

- A) Isometric
- B) Concentric
- C) Eccentric
- D) Isokinetic

4. What is the anatomical term for the shoulder blade?

- A) Clavicle
- B) Humerus
- C) Sternum
- D) Scapula

5. Which molecule is known as the primary 'energy currency' of the cell?

- A) DNA
- B) ATP
- C) RNA
- D) Hemoglobin

6. What is the physiological term for the body's ability to maintain a stable internal environment?

- A) Homeostasis
- B) Metabolism
- C) Hypertrophy
- D) Atrophy

7. Which of these is a byproduct of anaerobic metabolism in muscle tissue?

- A) Oxygen
- B) Lactic acid
- C) Nitrogen
- D) Glucose

8. Which type of muscle fiber is typically associated with endurance activities?

- A) Type I
- B) Type IIb
- C) Type IIx
- D) Fast-twitch

9. What is the primary function of the heart's left ventricle?

- A) Receiving deoxygenated blood
- B) Pumping oxygenated blood to the body
- C) Filtering blood
- D) Storing red blood cells

10. Which joint type allows for the greatest range of motion in the human body?

- A) Hinge joint
- B) Ball-and-socket joint
- C) Pivot joint
- D) Gliding joint

11. What does the FITT principle in exercise prescription stand for?

- A) Fast, Intense, Tough, Training
- B) Frequency, Intensity, Time, Type
- C) Flexibility, Impact, Tension, Tone
- D) Fluid, Intake, Temperature, Terrain

12. Which protein filament is primarily responsible for muscle contraction along with actin?

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

13. What is the term for the increase in muscle fiber size due to resistance training?

- A) Hyperplasia
- B) Hypertrophy
- C) Atrophy
- D) Osteoporosis

14. Where are red blood cells primarily produced in the adult human body?

- A) Liver
- B) Kidneys
- C) Bone marrow
- D) Lungs

15. Which gas is the primary waste product removed from the body during exhalation?

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

16. Which structural unit is considered the basic functional unit of a muscle contraction?

- A) Sarcomere
- B) Neuron
- C) Axon
- D) Mitochondria

17. What is the main role of the alveoli in the respiratory system?

- A) Filtering dust
- B) Gas exchange
- C) Storing air
- D) Producing mucus

18. Which vitamin is essential for the absorption of calcium for bone health?

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