

Exercise Science and Human Physiology

Exercise Science · Answer Key · 4 Questions

1. What is the primary energy system utilized during maximal-intensity exercise lasting less than 10 seconds, such as a 50-meter sprint?

- A) Phosphagen (ATP-PCr) system**
- B) Fast glycolytic system
- C) Slow oxidative system
- D) Beta-oxidation pathway

2. Which proprioceptor in the musculoskeletal system detects changes in muscle tension and causes relaxation to protect against excessive force?

- A) Muscle spindle
- B) Golgi tendon organ**
- C) Pacinian corpuscle
- D) Ruffini ending

3. According to Henneman's size principle, in what order are motor units recruited during skeletal muscle contraction?

- A) From largest to smallest
- B) From smallest to largest**
- C) Randomly based on fatigue
- D) Fast-twitch fibers are always recruited first

4. Which physiological metric represents the maximum rate at which the body can take up, transport, and utilize oxygen during exercise?

- A) Anaerobic threshold
- B) Respiratory quotient
- C) VO2 max**
- D) Vital capacity