

**Example****Exam Biomechanics**

1. Which choice is NOT an example of proper body mechanics?
  - a. Bending at the knees when lifting an object.
  - b. Reaching for an object that is not right in front of you.
  - c. Using a wide leg base before lifting.
  - d. Asking for assistance in lifting a heavy object.
2. The type of muscle movement in which there is no actual change in muscle length is known as:
  - a. Isokinetic
  - b. Isotonic
  - c. Isometric
  - d. Isotoner
3. Muscles that work in pairs are known as:
  - a. Kinetic and static
  - b. Antagonistic and agonistic
  - c. Isometric and isotonic
  - d. Isokinetic and kinetic
4. Which is NOT a stage involved in acquiring motor skills?
  - a. Cognitive
  - b. Associative
  - c. Autonomous
  - d. Dissociative
5. Which is NOT a step involved in analyzing movement?
  - a. Preparation
  - b. Execution
  - c. Warm-up
  - d. Follow-through
6. Which of the following options is correct?  
The axes of a relative reference system are aligned \_\_\_\_\_.
  - a. horizontally and vertically
  - b. with a segment of the body
  - c. with the ground
  - d. None of the above
7. Which of the following scenarios is an example of linear motion?
  - a. The path of a baseball while it is in the air.
  - b. A child performing a cartwheel.
  - c. A runner's leg motion during a 100-m race.
  - d. None of the above.
8. Which of the following scenarios could be considered in a kinetic study?
  - a. The velocity of a runner during a race.
  - b. The acceleration of a runner during the start of a race.
  - c. The torque developed by the muscles crossing the knee joint in a runner.
  - d. None of the above.

9. What type of skeleton would be found in arthropods and molluscs? Select one:
    - a. An exoskeleton.
    - b. A hydrostatic skeleton.
    - c. An endoskeleton.
    - d. A compound skeleton.
    - e. A spongy skeleton.
  10. Which of the following scenarios could be considered in a kinematic study?
    - a. The force between a runner and the starting blocks.
    - b. The torque developed by the muscles crossing the knee joint in a runner.
    - c. The change in position of a runner over time.
    - d. None of the above.
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1. What is an extensometer in biomechanics?
  2. Name two Biomechanical Concepts or principles that affect an Object-Control/Manipulative skill in a physical activity, and how can this be trained!
  3. What are the three phases of biomechanical locomotion in humans?
  4. Explain the biomechanics of levers when muscular forces are transmitted by the skeletal system!
  5. How has biomechanics improved exercise and physical therapy equipment?
  6. A runner started to accelerate after 4 sec and maintained the speed to the end of the finish line 100 m long and finished in 9.1 sec. What is the average accuracy in reaching 4 sec and the average accuracy at the finish line?
  7. Describe an example of a closed kinetic chain exercise. What is the main benefit of a closed chain exercise?