

## UNIT-8

## Biomechanics And Sports

1-Mark Questions (Objective/Subjective)

1. Biomechanics is the study of
  - a. body systems
  - b. physics
  - c. Biology
  - d. biological systems in movement.
2. The extension is the body movement in which
  - a. body parts move away from the body
  - b. the angle of the joint reduces
  - c. angle of joints increases
  - d. combination of all movements.
3. Friction is required for
  - a. fast movement
  - b. stopping the object.
  - c. both above.
  - d. none of the above
4. Adduction movement is
  - a. joint angle reduces
  - b. increase angle joint
  - c. away from body
  - d. towards body line
5. Kicking the ball is ..... movement
  - a. flexion of leg
  - b. extension of leg
  - c. adduction of leg
  - d. abduction of leg
6. Static friction make the object to....
  - a. move
  - b. stop
  - c. rest
  - d. Roll
7. Gliding movements occur in
  - a. Flat bone
  - b. long bone
  - c. skull bone
  - d. Small bone
8. Using dusting powder on the carom board is an example of changing
  - a. speed
  - b. strength
  - c. friction
  - d. energy
9. A movement that predominantly uses a hinge joint in physical activity is:
  - a. Sprint start leg action in athletics
  - b. The bowling arm action in cricket
  - c. Heading the ball in football.
  - d. Ankle action when swimming breaststroke
10. In the long jump take-off which law works
  - a. 1<sup>st</sup> law of newton
  - b. 2<sup>nd</sup> law of newton
  - c. 3<sup>rd</sup> law of newton.
  - d. Law of conservation of mass.
11. Match the following marks
  - (a) Mechanical friction
  - (b) Law of Inertia
  - (c) Take off the high jump
  - (d) Extension
  - (i) Increased in angle
  - (ii) Object are solid comes in contract
  - (iii) 3<sup>rd</sup> law of motion
  - (iv) Things Remains in its position
  - (a) a – ii, b – iv, c – iii, d – ii
  - (b) a – iv, b – ii, c – iii, d – i
  - (c) a – iv, b – ii, c – i, d – iii
  - (d) a – iii, b – ii, c – i, d – iv
12. Which is not the Importance of Biomechanics
  - (a) Improvement of Technique
  - (b) To under stance the structure of Movement & effect of forces on the Movement
  - (c) To understand the Physiology of the human body
  - (d) Improvement of sports Equipment's

13. Opening of hand sidewise when our hand is moving away from the body is an example of  
(a) Abduction (b) Adduction (c) Flexion (d) Extension
15. The force which oppose the relative motion between the surfaces of two object is known  
(a) Frictional force (b) Gravitational force (c) Applied force (d) Tension force
16. (a) Abduction (i) Decreasing in Angle  
(b) Newton's 2<sup>nd</sup> law (ii) Frictional force  
(c) Force That oppose (iii) Away from midline Movement  
(d) Flexion (iv) Law of Acceleration
- (a) a – iii, b – iv, c – ii, d – i. (b) a –iv, b – iii, c – ii, d – i  
(c) a – iv, b – iii, c – i, d – ii. (d) a – ii, d – iv, b – iii, c – i
17. Name the type of movement in which the angle at a joint increase and the part move farther apart.
18. Who formulated the low of motion?
19. Name the type of movement in which the angle at joint decreases and the parts come closer together.
20. Which low of motion is applied during the take-off in the high jump?
21. Which low of motion is applied when a basketball player dribbles the ball on the court?

**3-Mark Questions**

22. Discuss various types of friction.
23. "Friction is a necessary evil." Justify your answer with a suitable example from sports. Give your comment with examples.
24. What do you mean by biomechanics? Explain in brief.
25. With suitable examples discuss the application of Newton's Law of motion in sports.
26. Differentiate between adduction & abduction.
27. Differentiate between flexion & extension.

**5-Mark Questions**

28. Discuss the various types of movements in detail.
29. What is friction? Explain its types. Is it advantageous or disadvantageous in the field of sports? Give your views.
30. What do you mean by biomechanics? Elaborate on the importance of biomechanics in the field of games and sports.
31. Elucidate Newton's low of motion and their application in various games and sports.