

**MASTER OF PHYSICAL EDUCATION  
(M.P.Ed.)/ SEMESTER-II-May/June-2024**

**Paper- MPE-804(ii)- Subject Specialization-Sports Biomechanics**

Time-3 hours

Maximum Marks-50

(Write your Roll No. on the top right side  
Immediately on receipt of this question paper)

Attempt any five questions.  
All question carry equal marks

- Q1. Explain the concept related to Linear movement and kinetic energy emphasizing on-
- a) Linear Momentum
  - b) Linear Impulse
  - c) Conservation of linear momentum and
  - d) Kinetic energy.
- Q2. Write Short notes on the following (any five):
- a) Functional aspects of the muscular system.
  - b) Types of muscular tension.
  - c) Functions of muscles.
  - d) All and none law.
  - e) Strength of contraction.
  - f) Group action of muscles.
  - g) Reciprocal innervations.
  - h) Muscular fatigue.
- Q3. Write a note on Rotatory movement response to applied Torques emphasizing on-
- a. Angular speed and velocity.
  - b. Linear velocity of a point on a rotating body.
  - c. Angular Acceleration.
  - d. The relationship of torque, rotational inertia and angular acceleration.
- Q4. Discuss on Biomechanics of the Musculoskeletal system emphasizing on-
- a. Lever like arrangements.
  - b. Wheel and axle like arrangements.
  - c. Pulley like arrangements and

d. General consideration of muscular skeletal machines.

Q5. Analyze biomechanically any one technique from a Sport/Game of your choice.

Q6. Give performance Analysis of throw like movements emphasizing on-

- a) Biomechanics of throw like patterns.
- b) Analysis of sports skills using the kinetic link principle.
- c) Comparisons of similar skills within the same pattern.
- d) Performance errors: teaching and coaching applications and
- e) Development pattern: teaching implications.

Q7. Give performance analysis of push like movements.

Q8. Analyze any two fundamental skills from the following-

- a) Throwing
- b) Pulling
- c) Pushing.
- d) Jumping.