

M.P.Ed. Examination, 2015
Semester-II
Physical Education
Paper – MPED-123
(Exercise and Sports Biomechanics-I)

Time: 3 Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer **one** question from each unit.

Unit-I

1. Define sports Bio-mechanics. Explain the evolution of Exercise and Sports Bio-mechanics to the present concept. 2+6=8

or

“Exercise and Sports Bio-mechanics is indispensable for modern competitive sports performance”. Illustrate. 8

Unit-II

2. Write down how ‘Range’ and ‘Time of flight’ of a projectile can be calculated when height of release and height of landing are identical. 4+4=8

or

Distinguish between distance and displacement. Write down linear and angular acceleration with the help of equations. 4+2+2=8

Unit-III

3. State Newton’s laws of motion. Explain second law with the principles that can be derived from this law. 3+5=8

or

Write a detail note on how the Newton’s laws are applicable in angular motion. 8

Unit-IV

4. What do you understand by stable equilibrium and write down different conditions to ensure stability of an object. 2+6=8

or

What is co-efficient of friction? Describe the utility of solid friction in ‘performing different sports skills. 2+6=8

Unit-V

5. What is work? Write down the relationship of kinetic energy with work. 4+4=8

or

Write short notes on **any two** of the following: 4×2=8

- (a) Strain energy
 - (b) Conservation of mechanical energy
 - (c) Power
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