M. P. Ed 2nd Semester Examination 2023

Sports Biomechanics & Kinesiology

MPCC - 202

Full Marks – 70 **Time – 4 Hours**

The figures in the margin indicate full Marks.
The candidates are required to give their answers in their own words as far as practicable.
Illustrate the answer wherever necessary.

1. Define biomechanics. Write about the importance of sports biomechanics. Differentiate between kinesiology and biomechanics. **3+7+5=15**

OR

Differentiate between kinetics and kinematics with suitable example. Discuss about the different types of planes and axis with suitable example. Define vectors and scalars and state their importance. **4+5+6=15**

2. Write down about the origin and insertion of deltoid and biceps muscle. Explain the action of the said muscle during movement generation. What is Quadriceps group? **6+6+3=15**

OR

Write down the origin and insertion of rectus-femoris and quadriceps muscles. Explain the action of the said muscle during movement generation. What is Hamstring group? **6+6+3=15**

3. What is meant by motion? Write about the different types of force with suitable examples. Briefly discuss about the application of three types of body levers in sports. **3+6+6=15**

OR

What is projectile? Discuss about the different types of projectile motion with suitable example. Briefly discuss about the different types of friction. **3+6+6=15**

4. Briefly discuss about the different types of analysis of movement. What are the different types of methods to be followed during analysis? Differentiate between horizontal vertical jump. **5+7+3=15**

OR

Analyze biomechanically about the various stages of running movements. Write down about the basic biomechanical difference between running and walking. **8+7=15**

5. Write notes on any two from the following: **5 X 2 =10**

- **i.** Work, Power and Energy
- **ii.** Different types of motion with suitable example
- **iii.** Difference between stability and equilibrium
- **iv.** Possible various movements around the joints