Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD (now MoE)
Re-accredited with an 'A++' Grade by NAAC CGPA 3.65/4, Category I by UGC
Coimbatore - 641 043, Tamil Nadu, India

Continuous Internal Assessment II - October 2025
V Semester

Class : III BSc **Time:2hrs**
Branch : Bachelor of Physical Education **Max. Marks : 60**

23BPEC17 – Kinesiology and Biomechanics

Course Outcomes:

1. Understand the Skeletal structure of human body by identifying the origin and insertion of various muscles .
2. Orient the students in basic structure and functions of primary joints of the body
3. Relate and interpret the role of various mechanical principles in human movements .
4. Know the effectiveness of human movement using mechanical principles .
5. Develop physical conditioning programs based on scientific principles designed to develop physical fitness and improve athletic performance .

Part A **6 x 1 =6**

Choose the Correct Answer

1. In which of the following movements is the principle of angular momentum most important? CO2K1
   a) A sprinter running in a straight line b) A weightlifter performing a deadlift
   c) A figure skater performing a spin d) A basketball player shooting a free throw
2. The formula for calculating momentum is: CO1K1
   a) Force x Time b) Mass x Velocity
   c) Power / Time d) Mass x Acceleration
3. The ability of a body to maintain equilibrium is known as: CO3K2
   a) Agility b) Balance c) Stability d) Coordination
4. Center of gravity is defined as: CO4K3
   a) The point at which all of the body's mass is concentrated.
   b) The point where the body's weight is equally distributed.
   c) The point of intersection of the three cardinal planes.
   d) The point at which the ground reaction force acts.
5. In a lever system, the fulcrum is the point around which the lever rotates. CO2K1
   Where is the fulcrum located in a Class 3 lever?
   a) Between the effort and the load b) At one end, with the load in the middle
   c) At one end, with the effort in the middle d) It can be anywhere
6. What is the term for the turning effect produced by a force? CO5K3
   a) Torque b) Work c) Power d) Momentum

Part B **3 x 6 = 18**

Answer ALL questions

Each answer should not exceed 400 words or two pages

7.a. Differentiate Kinetics and Kinematics CO1K2

(or)

7. b. Breif - Newton's Laws of Motion

8. a. Define Distance and Displacement with examples CO3K1

(or)

8.b. Define centre of gravity

9.a. Brief - a)Buoyancy force b)fluid resistance CO2K1

(or)

9.b. Brief - a)Air Gravity b)Water Friction

Part C **3 x 12 = 36**

Answer ALL questions

Each answer should not exceed 800 words or four pages

10.a. Elaborate - Equilibrium and its types CO1K2

(or)

10.b. Explain the types of motion with appropriate sports example

11.a. Write in detail about the gait analysis and its application to biomechanical principles CO2K3

(or)

11.b. Draw and neatly mention the posterior muscles of the human body

12.a. Explain biomechanical qualitative and quantitative analysis in the game cricket. CO4K1

(Or)

12 b. Describe the application of bio mechanical principles in throwing events