



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

Branch : Bachelor of Physical Education

Time: 2hrs

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. Brief - 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

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