



Kambal

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 A++ Grade by NAAC. CGPA 3.65 /4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

Bachelor of Physical Education Degree Examination – April 2026 IV Semester

Class: II B.P.Ed.

Time : 3 Hours

Max. Marks : 100

23BPDC25 Kinesiology and Biomechanics

Course Outcomes:

- CO1: Demonstrate and apply basic mechanical and physics principles to human movements and implements used in various sports.
- CO2: Identify the relationship between anatomical structure, physiological function, and mechanical principles as they relate to the performance of basic and complex motor skills.
- CO3: Explain the knowledge and appreciation of the importance of the study of kinesiology as a foundation for further studies in biomechanics and performance analysis
- CO4: Analyze sport movements and design movement-oriented exercise prescriptions and view the performance of physical activity skills critically and evaluate performance in terms of principles of efficient movement.
- CO5: Describe the methods used to achieve the goals of exercise and sports Biomechanics

Part A

10 x 1 = 10

Choose the Correct Answer

- Who is Father of modern biomechanics? CO1 K1
a. Galileo Galilei b. Aristotle c. Newton d. Hippocrates
- Kinesiology helps physical education teachers to CO2 K1
a. Understand body movements and exercises b. Teach only mathematics
c. Study plants d. Draw pictures
- Main function of the hamstring is CO2 K2
a. Knee extension b. Knee flexion c. Shoulder rotation d. Hip abduction
- Insertion of a muscle is CO2 K2
a. attaches to movable bone b. attaches to stationary bone
c. ends at skin d. has no function
- Rate of change of velocity is called CO2 K1
a. Displacement b. Speed c. Acceleration d. Momentum
- Motion in a circular path around an axis CO1 K2
a. Linear b. Angular c. Translatory d. Circulatory
- Joint allowing movement in all directions is called as CO1 K1
a. Hinge b. Gliding c. Pivot d. Ball and socket
- Joints connected by cartilage is known as CO2 K2
a. Cartilaginous b. Fibrous c. Ligamentous d. Synovial
- Which is the manipulative skills? CO1 K2
a. Running b. Throwing c. Walking d. Jumping
- Choose the Example of dynamic equilibrium CO2 K1
a. Standing still b. Lying down c. Sitting on a chair d. Walking or running

Part B**5 x 6 = 30****Answer ALL questions****Each answer should not exceed 400 words or two pages**

- 11.a. Explain the role of kinesiology in physical education
(or)
11.b. What is Equilibrium and classify it? CO1 K2 CO2 K3
- 12a. Write the importance of Posture.
(or)
12.b. Discuss different types of muscular contractions. CO2 K4 CO2 K4
- 13.a. Explain the Projectile and influencing factors.
(or)
13.b. Describe the axes of rotation in human movement. CO3 K2 CO3 K3
- 14.a. Explain the types of motion with sports examples
(or)
14.b. Define sports biomechanics and discuss its importance in Sports CO4 K3 CO1 K2
- 15.a. Discuss the mechanical principles involved in Weight Lifting.
(or)
15.b. Explain the GAIT analysis. CO5 K5 CO4 K6

Part C**5 x 12 = 60****Answer ALL questions****Each answer should not exceed 800 words or four pages**

- 16.a. Write the history and development of Kinesiology in the field of sport?
(or)
16.b. Draw and explain the types of Axis and Planes CO2 K2 CO4 K3
- 17.a. Classify the types joints in human body.
(or)
17.b. Explain the types postural deformities with examples. CO3 K2 CO3 K2
- 18.a. Explain the types of levers with examples.
(or)
18.b. Explain mechanical advantage and disadvantage of lever in sports CO3 K4 CO3 K5
- 19.a. Write about Linear Kinematics and its elements?
(or)
19.b. Discuss Law of Motion with sports examples. CO4 K3 CO4 K5
- 20.a. Explain the applications of biomechanical principles in sprinting events.
(or)
20.b. Describe the use of biomechanics in your specialized sport. CO5 K6 CO5 K5
