Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be UniversityEstd. u/s 3 of UGC Act 1956, Category 'A' by MHRD)
Re-accredited with 'A++' Grade by NAAC. Recognised by UGC under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination - May 2024
VI Semester

Class : III UG | **Time : 3 Hours**
Major : Physical Education | **Max. Marks : 100**

21BPEC26 Kinesiology and Biomechanics

Course Outcomes:

1. Identify biomechanical, health, physiological, and psychological limitations to and interventions for improving physical performance.
2. Analyze and explain the mechanisms underlying biomechanical, physiological, and psychological changes that occur during after acute and chronic exercise.
3. Develop physical conditioning programs based on scientific principles designed to develop physical fitness and improve athletic performance.
4. Understand mechanical principles can be applied to the analysis of human movement to assess and improve performance and reduce risk of injury.
5. Know effectiveness of human movement using mechanical principles.

Part A — 10 x 1 = 10
Choose the Correct Answer

1. Kinesiology is derived from the Greek words — CO1K1
   a. kinema b. kinesis
   c. kinephysis d. kinetosis

2. Kinesiology is the scientific study of _____. — CO1K1
   a. Weather patterns b. Human movement
   c. Geological formations d. Celestial bodies

3. Neck joint' is an example of — CO2K2
   a. Pivot joint b. Hinge joint
   c. Saddle joint d. Condyloid joint.

4. ___ muscle is involved in the elevation of arm — CO2K2
   a. Deltoid b. Biceps
   c. Triceps d. Quadriceps.

5. The sagittal plane divides the body into _____. — CO3K2
   a. upper and lower halves b. left and right halves
   c. front and back halves d. medial and lateral halves

6. Isotonic muscle contraction involves constant muscle _____ while the muscle shortens. — CO3K2
   a. Tension b. Fatigue
   c. Relaxation d. Flexibility

7. Heading football is an example of ---------- law. — CO4K3
   a. Newton's first Law b. Newton's Second Law
   c. Newton's Third Law d. All the above

8. ____lever is most effective in sport movements — CO4K3
   a. Third class b. Second class
   c. First class d. None of the above.

9. Force generation while lengthening the fiber is termed as... — CO5K5
   a. Eccentric contraction b. Isotonic contraction
   c. Isometric contraction. d. Lateral back curve.

10. The branch of mechanics that describes the cause of force is — CO5K5
   a. Kinetics b. Kinematics
   c. Biomechanics d. Fluid mechanics.

Part B — 5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

11.a. What is the meaning of kinesiology and biomechanics?	CO1K1
(or)	
11.b. what is the primary role of kinesiology in physical education?	CO1K1
12.a. Draw the origin and insertion of the pectoralis major muscle.	CO2K2
(or)	
12.b. List out the different types of synovial joints.	CO2K2
13.a. Write about the muscular designing.	CO3K3
(or)	
13.b. How would you formulate an exercise program for an athlete?	CO3K3
14.a. Enumerate the types of levers with example.	CO4K4
(or)	
14.b. Explain Air gravity and water frictionwith example.	CO4K4
15.a. Short note on gait analysis.	CO5K5
(or)	
15.b. Define force and its types with examples.	CO5K5

Part C — 5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

16.a. Write the Need and importance of kinesiology in the field of physical education.	CO1K1
(or)	
16.b. Elaborate the history and development of kinesiology in the field of physical education.	CO1K1
17.a. Draw a neat diagram, origin, insertion and action of the following muscle. i) Trapezius ii) Deltoid iii) Biceps	CO2K2
(or)	
17.b. Draw a neat diagram of hamstring muscles and explain its movement.	CO2K2
18.a. Explain the types of muscular contraction with suitable examples.	CO3K3
(or)	
18.b. Write about the axis and planes apply in the game of specialization.	CO3K3
19.a. Details about Newton's three laws of motion and their application in a game of your choice?	CO4K4
(or)	
19.b. What are the three key principles of biomechanics?	CO4K4
20.a. Analysis the fundamental movements involved in Basketball shooting?	CO5K5
(or)	
20.b. Explain the mechanical principles of walking or jumping ?	CO5K5

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