**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)
Re-accredited with 'A++' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

**Bachelor of Physical Education Degree Examination – May 2024**
**IV Semester**

**Class: II B.P.Ed. / 2021 Batch (Repeater)**

**Time : 3 Hours**
**Max. Marks : 100**

**21BPDC25 Kinesiology and Biomechanics**

**Course Outcomes:**
CO1: Understand the concept and mechanism of officiating and coaching
CO2: Describe the duties of coaches and officials
CO3: Identify and implement risk management strategies for the well-being of athletes, spectators and officials
CO4: Apply the concept of coaching and officiating
CO5: Analyze training requirements for different sporting population

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

1. Kinesiology is a study of — CO1 K1
   a. Joint position b. Body movement c. Bone intersection d. Muscle origin

2. The plane which divides the body into superior and inferior halves is known as the — CO2 K2
   a. Sagittal plane b. Coronal plan c. Transverse plane d. Frontal plane

3. The joint in our elbow is an example of — CO3 K1
   a. Hinge joint b. Ball & socket joint c. Pivot joint d. Gliding joint

4. In muscle contraction, this ion is essential — CO1 K1
   a. Cl b. Ca c. k d. Na

5. Newton's second law of motion — CO2 K3
   a. Law of inertia b. Law of counter force
   c. Law of acceleration d. Law of gravitation

6. The path traced by a projectile in space is known as — CO3 K2
   a. Coral b. Orbit c. Track d. Trajectory

7. The combined effect of mass and velocity is taken into account by a physical quantity is called — CO3 K2
   a. Impulse b. Moment of force c. Momentum d. None of the above

8. Formula for Speed — CO3 K2
   a. distance x time b. mass x distance c. mass / distance d. distance/time

9. Is twisting movement as — CO3 K2
   a. Locomotor skills b. Non locomotor skills
   c. Manipulative skills d. All of the above

10. All of the following are examples of locomotor skills, Except — CO4 K1
    a. Running b. Walking c. Hopping d. Stretching

## Part B 5 x 6 = 30

**Answer ALL questions**

**Each answer should not exceed 400 words or two pages**

| | |
|---|---|
| 11.a. Define axis and planes and its types. | CO3 K2 |
| (or) | |
| 11.b. Briefly explain the meaning and definition of kinesiology and biomechanics. | CO1 K1 |
| 12.a. Explain the classifications of joints. | CO2 K3 |
| (or) | |
| 12.b. List down the importance of good posture. | CO1 K2 |
| 13.a. Briefly explain projectile with suitable examples. | CO4 K3 |
| (or) | |
| 13.b. Define levers and its types. | CO2 K2 |
| 14.a. Define distance and displacement. | CO2 K2 |
| (or) | |
| 14.b. What is friction and explain with suitable examples? | CO3 K3 |
| 15.a. Explain any three locomotor movements. | CO4 K2 |
| (or) | |
| 15.b. Explain the manipulative skills. | CO3 K4 |

## Part C 5 x 12 = 60

**Answer ALL questions**

**Each answer should not exceed 800 words or four pages**

| | |
|---|---|
| 16.a. Need and importance of kinesiology and biomechanics in the field of physical education and sports. | CO3 K2 |
| (or) | |
| 16.b. Explain the equilibrium and types with suitable examples. | CO2 K2 |
| 17.a. Define classifications of muscle and explain types of muscle contraction. | CO2 K1 |
| (or) | |
| 17.b. Explain "All or None Law". | CO2 K1 |
| 18.a. Brief explanation on Newton's law of motion and explain with suitable sports application. | CO1 K3 |
| (or) | |
| 18.b. What is meaning, definition, types of force and its application to sports activities? | CO3 K3 |
| 19.a. Explain briefly linear kinematics and angular kinematics. | CO2 K2 |
| (or) | |
| 19.b. Define moment of inertia, couple, and stability with suitable examples. | CO2 K2 |
| 20.a. List down the mechanical principles of fundamental movements. | CO2 K2 |
| (or) | |
| 20.b. Difference between locomotors and non-locomotors skill. | CO3 K3 |

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