



Murugan

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 12 B
Coimbatore-641 043, Tamil Nadu, India

Bachelor's Degree Examination - May 2023
VI Semester

Class: III UG
Major: Physical Education

Time : 3 Hours
Max. Marks: 100

18BPEC26 Kinesiology and Biomechanics

Course Outcomes:

1. Identify biomechanical, health, physiology, and psychological limitations to and interventions for improving physical performance
2. Analyse and explain the mechanisms underlying biomechanical, physiological, and psychological change 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 principle 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. Who is the Father of kinesiology?
a. Aristotle
b. Galen
c. Dr. George Goodheart
d. Giovanni Alfonso Borelli
CO2 K1
2. Mechanics means
a. Living human
b. Science of motion
c. Functions of body
d. Structure of body
CO3 K2
3. Muscle cells are
a. Excitable
b. Contractile
c. Movable
d. Both (a) and (b)
CO3 K3
4. The supraspinatus muscle originated from _____ and inserts in the _____.
a. Scapula / Humerus
b. Sternum / Scapula
c. Humerus / Scapula
d. None of the above
CO4 K4
5. The flight path of an object is _____.
a. Projectile
b. Trajectory
c. Angular motion
d. Angular velocity
CO3 K2
6. _____ is the perpendicular to the ground and divides the body into posterior and anterior portions.
a. Sagittal plane
b. Plane
c. Transverse plane
d. Frontal plane
CO2 K2
7. Newton's second law of Motion is also known as
a. Law of Inertia
b. Law of Action Reaction
c. Law of momentum
d. Law of Gravitation
CO2 K2
8. In which class of lever fulcrum in the middle
a. Class 3
b. Class 2
c. Class 1
d. None of these
CO3 K2
9. _____ is the quantitative measure of inertia.
a. Mass
b. Friction
c. Potential Energy
d. Torque
CO2 K2
10. Acceleration is the rate of change of the _____ object with respect to time.
a. Distance
b. velocity
c. Inertia
d. Leverage
CO2 K2

Part B
Answer ALL questions
Each Answer should not exceed 400 words or two pages

5 x 6 = 30

11. a. Describe the aim and objectives of kinesiology . CO1 K1
(or)
11. b. Describe need of Biomechanics in sport training. CO1 K1
12. a. Difference between muscle origin and muscle insertion. CO2 K3
(or)
12. b. Explain the origin and insertion of Quadriceps muscles. with diagram. CO3 K2
13. a. Describe muscular designing. CO3 K3
(or)
13. b. Describe Kinesiological grouping of muscles. CO2 K5
14. a. Describe law of motion and classification. CO3 K5
(or)
14. b. Describe biomechanical principles. CO2 K3
15. a. Write short notes on following (any two). CO3 K2
(a) Friction (b) Angular kinematics (c) Inertia (d) Stability
(or)
15. b. What you mean by Projectile with any one example. CO2 K3

Part C
Answer ALL questions
Each Answer should not exceed 800 words or four pages

5 x 12 = 60

16. a. Explain the role and importance of kinesiology in physical education. CO3 K3
(or)
16. b. Explain classification of synovial joints and body movements. CO2 K2
17. a. Explain the origin, insertion and action of following muscle. CO4 K1
a) Deltoid b) Rectus femoris c) Rectus abdominus
(or)
17. b. Draw a neat diagram of Triceps and Sartorius and write the action of the muscles. CO3 K3
18. a. Explain about muscle contraction and its types. CO2 K1
(or)
18. b. Explain axis and planes. CO1 K2
19. a. Explain motion and factors of influencing motion. CO2 K2
(or)
19. b. Explain types and advantages of levers with suitable sports example. CO3 K3
20. a. Explain the application and analysis of biomechanical principles in walking and running. CO2 K2
(or)
20. b. Explain application and analysis of techniques for the followings CO3 K3
(a) Javelin throw (b) long jump.
