(6 pages) Reg. No. : .....

Code No. : 10646 E **Sub. Code : CAPE 41**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2024.

Fourth Semester

Physical Education – Allied

SPORTS BIOMECHANICS AND KINESIOLOGY

(For those who joined in July 2021-2022)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. What is the definition of kinesiology?
   (a) The study of the human body and its movement
   (b) The study of the nervous system
   (c) The study of the respiratory system
   (d) The study of the human behaviour

2. What is the importance of kinesiology in physical education and sports?
   (a) It helps athletes to perform better
   (b) It helps to prevent injuries and improve overall performance
   (c) It helps to organize sports
   (d) It helps to analyses the match quantitatively

3. What is the centre of gravity?
   (a) The point where the body is balanced
   (b) The point where the body is unbalanced
   (c) The point where the body is not moving
   (d) The point where the body is working

4. What are the criteria for good posture?
   (a) Slouching and rounded shoulders
   (b) Standing tall with a neutral spine
   (c) Leaning to one side
   (d) Structural deviations of the body

5. What is the location of the pectoralis major muscle?
   (a) In the chest (b) In the back
   (c) In the legs (d) In the arms

6. What is the action of the rectus femoris muscle?
   (a) Flexion of Knee (b) Extension of Knee
   (c) Extension of hip (d) Extension of foot

7. What is the aim of biomechanics?
   (a) To study the human body and its movement
   (b) To study the laws of physics as they apply to the human body
   (c) To study the nervous system
   (d) To study the musculoskeletal system

8. What is angular projectile motion?
   (a) The motion of an object moving in a straight line
   (b) The motion of an object moving in a curved path
   (c) The motion of an object moving up and down
   (d) The motion of an object moving in a vertical line

9. What is the definition of force?
   (a) A push or pull on an object
   (b) The amount of matter in an object
   (c) The force of gravity on an object
   (d) The centre of gravity on an object

10. What is the definition of momentum?
    (a) The amount of matter in an object
    (b) The force of gravity on an object
    (c) The product of an object's mass and velocity
    (d) The centre of gravity on an object

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Meaning of Kinesiology - Explain.

    Or

    (b) Explain – Aim and objectives of Kinesiology.

12. (a) Cause for poor posture - Explain.

    Or

    (b) Application of kinesiology to motor skills and Daily living.

13. (a) Write the location, origin, insertion and action of Trapezius.

    Or

    (b) Write the location, origin, insertion and action of Deltoids.

14. (a) Meaning of biomechanics - Explain.

Or

(b) Linear and angular motion - Explain.

15. (a) Explain – Momentum, friction and impact.

Or

(b) Explain- projectile and trajectory.

SECTION C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Need for and importance of Kinesiology in Physical Education - Describe.

Or

(b) Explain – Axes and planes with example.

17. (a) Postural deformities - Explain.

Or

(b) Criteria for good posture - Describe.

18. (a) Draw a neat diagram of Quadriceps muscles and write the origin, insertion and action.

Or

(b) Draw a neat diagram of Hamstring muscle and write the origin, insertion and action.

19. (a) Need for and importance of Biomechanics in Physical Education and Sports-Explain.

Or

(b) Explain – Newton's law of motion.

20. (a) Explain the significance of Biomechanics in Physical Education and Sports.

Or

(b) Describe the three types of levers and provide examples.

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