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Ex/Phy.Edn/PG/MPCC-202/196/2018

xii) A car covers a distance of 5 km in 5 minutes its average speed is equal to

- A) 1 km / h B) 25 km / h
C) 60 km / h D) None of the above

MASTER OF PHYSICAL EDUCATION EXAMINATION, 2018

(1st Year, 2nd Semester)

SPORTS BIOMECHANICS AND KINESIOLOGY

PAPER - MPCC-202

Time : Three hours

Full Marks : 70

GROUP - A

Answer *any three* questions

1. What do you mean by kinesiology and biomechanis ? Relate work and power. Describe different planes and axis of movement. 4+3+8=15
2. What is the importance of kinesiology in physical education and sport ? Write down the origin, insertion and action of any three upper extremities muscles. 3+12=15
3. Define motion. Classify motion with the example of sports activities. Write down the important equations of projectile motion. 2+7+6=15
4. What is biomechanical analysis ? What are the various techniques and procedure of biomechanical analysis ? Biomechanically analyse any one fundamental human movement. 2+4+9=15

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5. Briefly explain the following terms (*any three*): $3 \times 5 = 15$

- a) Centre of Gravity,
- b) Work and Power,
- c) Scalar and Vector,
- d) Statics and Dynamics,
- e) Role of Sport Biomechanics in Sport

GROUP - B

6. Write short notes on *any two* of the following : $7 \frac{1}{2} \times 2 = 15$

- a) Brief history of kinesiology
- b) Stability and Equilibrium
- c) Biomechanical analysis of shot put
- d) Advantages of motion analysis through cinematography technique.

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viii) Resistance of an object to change in its state of motion is

- A) Velocity
- B) Acceleration
- C) Inertia
- D) Momentum

ix) Arrange the following phases of action of discuss throw according to their sequence of execution from the code given below :-

- I) Release action
- II) Rotation
- III) Release stance
- IV) Preliminary swing

codes :

- A) IV, II, III, I
- B) II, III, I, IV
- C) III, I, IV, II
- D) I, IV, II, III

x) Find the correct answer :

- A) Friction is a negative force for performance.
- B) Friction is a positive force for performance.
- C) Friction is negative as well as positive force for performance.
- D) Friction does not have any influence on performance.

xi) If value of moment arm is zero, then torque produced will be

- A) 1
- B) 0
- C) Doubled
- D) Decreased

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- iv) Mass and weight are two dimensions of a matter. Among them :
- A) Mass changes but weight remains unchanged.
 - B) Mass is fixed but weight changes.
 - C) Both mass and weight are fixed.
 - D) Both mass and weight change.
- v) The vector quantity has only
- A) Magnitude B) Direction
 - C) Both D) None
- vi) Function of Sartorius is :
- A) Flexion of hip and flexion of knee
 - B) Flexion of hip and extension of knee
 - C) Extension of hip and flexion of knee
 - D) Extension of hip and extension of knee
- vii) Newton's 2nd law of motion is also known as :
- A) Law of action and reaction ;
 - B) Law of conservation of energy ;
 - C) Law of inertia
 - D) Law of Acceleration

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GROUP - C

7. Answer **any ten** questions (put a tick against your answer) : 1×10=10
- i) Etymological meaning of Kinesiology is :
- A) Kinesiology is science of motion.
 - B) Kinesiology is science of motion of living being.
 - C) Kinesiology is science of motion of human being.
 - D) Kinesiology is science of motion of human being during sports participation.
- ii) Find the correct answer. Frontal plane divides the body into
- A) Front and back halves
 - B) Left and right halves
 - C) Upper and lower halves
 - D) Inner and outer halves
- iii) Casual analysis of motion is called :
- A) Kinetics B) Statics
 - C) Kinematics D) Dynamics

[Turn over