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Ex/Phy.Edn/PG/CC-202/2019

12. Protraction and retraction takes place in ?

- A) Hip joint                      B) Shoulder joint  
C) Elbow joint                    D) knee joint

**MASTER OF PHYSICAL EDUCATION EXAMINATION 2019**

( 1st Year, 2nd Semester )

**SPORTS BIOMECHANICS AND KINESIOLOGY**

**PAPER : MP CC-202**

Time : Three hours

Full Marks : 70

**GROUP - A**

( Answer *any three* questions : )

1. Define kinesiology and sports biomechanics ? Relate force, mass and acceleration. Describe two kinematic and kinetic terms. 4+3+8=15
2. Write a note on the historical development of kinesiology as an academic subject. Discuss the musculoskeletal basis of human movement. 10+5=15
3. What is motion ? Describe different types of motion. Explain body lever. Describe second and third kind of body lever. 2+4+3+3+3=15
4. What is biomechanical analysis ? What are the various types of biomechanical analysis used in the field of sports ? Biomechanically analyze any one sports skill of your choice. 2+4+9=15

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**GROUP - B**

5. Write short notes on **any two** of the following :  $7.5 \times 2 = 15$
- a) Plane and Axis of Movements
  - b) Write the origin, insertion and action of any two upper extremity muscles.
  - c) Water resistance
  - d) Projectile motion
  - e) Cinematographic analysis

**GROUP - C**

6. Answer **any ten** questions (Write the correct option) :  
 $1 \times 10 = 10$
1. Find the correct statement :
- 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.

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2. The motion of a Javelin is an example of
- A) Projectile motion
  - B) Regularly accelerated motion
  - C) Decelerated motion
  - D) Irregularly decelerated motion
3. Which one of the following can be explained by Newton's Third Law of Motion
- A) Running and jumping
  - B) Throwing and catching
  - C) Kicking and hitting
  - D) Bowling and batting
4. Match List - I with List - II and select the correct option from the codes given below :
- | List - I  | List - II            |
|---|----------------------|
| I. Mass x velocity (mv)   | 1. Centrifugal force |
| II. Mass x acceleration (mf)  | 2. Weight            |
| III. Mass x acceleration due to gravity (mg)                        | 3. Force             |
| IV. Mass x (angular velocity) <sup>2</sup> x radius of rotation (m) | 4. Momentum          |

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Codes :

	I	II	III	IV
A)	4	3	2	1
B)	3	2	1	4
C)	2	1	4	3
D)	1	4	3	2

5. Match the following

List - I

List - II

- |                           |                             |
|---------------------------|-----------------------------|
| i. Hinge joint            | i. knees, elbow, phalanges  |
| ii. Saddle joint          | ii. thumb                   |
| iii. Amphiarthrosis joint | iii. Slightly movable joint |
| iv. Diarthrosis joint     | iv. Freely movable joint    |

6. Shot is put, not thrown, but what is the aim ?

- |           |             |
|-----------|-------------|
| A) Flight | B) Distance |
| C) Time   | D) Speed    |

7. Along with which plane, jumping jack uses arm and leg abduction and adduction ?

- |                           |            |
|---------------------------|------------|
| A) Sagittal               | B) Lateral |
| C) Anterior and posterior | D) Frontal |

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8. Linear velocity depends on :

- A) Angular velocity
- B) Flight
- C) angular velocity and radius of rotation
- D) Speed

9. Hyperextension occurs when the angle of extension is beyond :

- |               |              |
|---------------|--------------|
| A) 60 degree  | B) 90 degree |
| C) 180 degree | D) 80 degree |

10. Other than propulsive force the aerial motion of a body is influenced by :

- |               |                   |
|---------------|-------------------|
| A) Its weight | B) Spin           |
| C) Elasticity | D) Air resistance |

Find correct combination :

- |             |             |
|-------------|-------------|
| I. a, b, c  | II. b, c, d |
| IV. c, d, a | IV. d, a, b |

11. Medio-lateral movement is also known as ?

- |              |              |
|--------------|--------------|
| A) Rotation  | B) Adduction |
| C) Abduction | D) Flexion   |

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