

Programme: BPT

Course: Biomechanics I

Course Code: 23A302

Enrolment no. _____

Full Marks: 70

Time: 3 Hrs.

Q.No.	Questions	CO	Bloom Taxonomy Category	Marks
Section I				
1	Short Answer type questions.			4 x 5 = 20
a	What are the factors responsible for Stability?	CO1	Remember	
	or			
b	Describe Law of Inertia.	CO1	Understand	
	or			
c	Write briefly about dense fibrous tissue.	CO2	Remember	
	or			
d	Mention about types of connective tissue.	CO2	Remember	
	or			
e	Explain postural imbalance.	CO5	Understand	
	or			
f	Explain how gravity affects the motion of object on the earth.	CO5	Understand	
	or			
g	Define group action of muscles.	CO5	Understand	
	or			
	What is Coordinated movement?	CO5	Understand	
Section II				
Long Answer type questions.				
2	Compare the convex-concave movements in the hip joint during open chain vs close chain exercises with the help of diagram.	CO4	Analyze	3 x 10 = 30
	or			
3	Analyze the biomechanical advantage of close and open pack positions in weight bearing joints like the hip.	CO4	Analyze	
	or			
4	Analyze the kinetics and kinematics of any joint of shoulder joint with suitable examples and diagram.	CO3	Analyze	
	or			
5	Compare the structure and composition of different muscle will change its line of action and muscle work.	CO3	Analyze	
	or			
6	Explain with diagram why knee joint is known as modified hinge joint?	CO5	Understand	
	or			
	Explain Stress and Strain Curve with level diagram.	CO5	Understand	
Section III				
Application based questions				
7	Define lever. Explain the application of 1st, 2nd and 3rd order levers in human body with the help of suitable examples and diagrams.	CO1	Analyze	1 x 20 = 20
	or			
	Discuss Axes and Planes. Analyze the pattern of movements occurring in shoulder joint between the Axes and Planes with the help of diagrams.	CO1	Analyze	

COURSE OUTCOME

At the end of the course candidate will able to

CO1: Understand and apply various concepts and terminology within the area of biomechanics.

CO2: Describe how biomechanical factors influence motion in sport and exercise.

CO3: Demonstrate an understanding of statics, Kinematics and Kinetics in human movement.

CO4: Evaluate movement and estimate force on human structures during exercise.

CO5: Demonstrate an understanding of how changes of movement patterns and techniques will influence the load on human tissues during movement.