



**Programme: BPT**

**Course: Fundamentals of Biomechanics & Exercise Therapy**

**Course Code: 23A204**

**Enrolment no. \_\_\_\_\_**

**Full Marks: 70**

**Time: 3 Hrs.**

Q.No.	Questions	CO	Bloom Taxonomy Category	Marks	
<b>Section I</b>					
1	<b>Short Answer type questions.</b>				
a	Explain in brief about Goniometer and its types. or	CO8	Remember	<b>4 x 5 = 20</b>	
	Write in detail about the technique to measure shoulder flexion and extension range of motion.	CO8	Understand		
b	Write short notes on Relaxation and types of relaxation. or	CO1	Remember		
	Enumerate about Gravity and the Force of Gravity with examples and diagrams.	CO1	Understand		
c	Elaborate on springs in Parallel and Series connection. or	CO3	Remember		
	Discuss about Static and Dynamic Balance.	CO3	Understand		
d	Discuss Massage and its classification. or	CO6	Understand		
	Describe the types of Soft Tissue Manipulation.	CO6	Understand		
<b>Section II</b>					
	<b>Long Answer type questions.</b>				
2	Demonstrate the relationship between different axes and planes of the body by describing and illustrating various types of movements. or	CO2	Analyze	<b>3 x 10 = 30</b>	
	Explain about different order of levers with example of lever in human body. Add a short note on the application of levers in physiotherapy.	CO2	Apply		
3	Demonstrate the positions derived from starting position in Physical training. or	CO5	Apply		
	Explain the fundamental positions, its muscle work, effects and uses.	CO5	Understand		
4	Analyze the concept of apparent limb length and its measurements techniques. or	CO9	Analyze		
	Design and explain a detailed protocol for accurately measuring the limb length of the Upper Limb.	CO9	Create		
<b>Section III</b>					
	<b>Application based questions.</b>				
5	Analyze the advantages and disadvantages of utilizing AROM exercises in upper limb rehabilitation compared to and lower limb. or	CO4	Analyze	<b>1 x 20 = 20</b>	
	Create the technique of performing PROM on the neck and trunk muscles.	CO4	Create		

**COURSE OUTCOME**

**At the end of course, candidate will able to**

CO1 Define various terms used in biomechanics and exercise therapy.

CO2 Have knowledge of basic principles of Physics related to mechanics of movement/ motion & Able to understand the application of such principles to the simple equipment designs and their efficacy in therapeutic gymnasium and various starting positions used in therapeutics.

CO3 To able to describe and also acquire the skill of use of various tools of the therapeutics Gymnasium

CO4 To demonstrate passive movements in terms of various anatomical planes.

CO5 To demonstrate various starting and derived positions.

CO6 Acquire the skill of application of various massage manipulation and able to describe the Physiological effects, therapeutically use merits /demerits of the same.

CO7 Acquire the skill of assessment of sensations, superficial and deep reflexes.

CO 8 To able describe different types of goniometer, merits and demerits of it. Acquire the skills Measure of ROM of different joints.

CO9 Will have a knowledge of limb length measurement, girth measurement.