

**School of Medical and Allied Sciences**

**Bachelor of Physiotherapy  
Semester End Examination - Jun 2024**

**Duration : 180 Minutes  
Max Marks : 100**

**Sem II - L2UA204T - L1UB204T - BHPT2004 - Basic Principles of Biomechanics**General Instructions

*Answer to the specific question asked*

*Draw neat, labelled diagrams wherever necessary*

*Approved data hand books are allowed subject to verification by the Invigilator*

- |     |                                                                                                                       |        |
|-----|-----------------------------------------------------------------------------------------------------------------------|--------|
| 1)  | What is 3rd order Lever?                                                                                              | K1(2)  |
| 2)  | Explain why did your Superman punching bag always pop up again?                                                       | K2(4)  |
| 3)  | Explain moment arm. How does moment arm affect the ability of a force to rotate a segment?                            | K2(6)  |
| 4)  | Classify Eccentric and Concentric activity of Quadriceps muscle with suitable Diagram                                 | K3(9)  |
| 5)  | Identify and draw a labelled diagram of Epimysium, Perimysium and Endomysium.                                         | K3(9)  |
| 6)  | Explain how immobilization affects joint structures                                                                   | K5(10) |
| 7)  | Examine OsteoKinematics and Arthrokinematics of Knee Flexion and Extension in Non weight Bearing                      | K4(12) |
| 8)  | Interpret how COM changes its position while bending, carrying heavy weight in hand on one side with suitable example | K5(15) |
| 9)  | Determine Torque of muscle if Moment arm is 0.5m and Force produced is 50N.                                           | K5(15) |
| 10) | Discuss about Eccentric and Concentric Contractions with the help of suitable example.                                | K6(18) |