

# Rajiv Gandhi University of Health Sciences, Karnataka

**IV Semester Bachelor of Occupational Therapy Degree Examination – 10-Nov-2025**

**Time: Three Hours**

**100**

**Max. Marks:**

## **BIOMECHANICS (LE) and ERGOTHERAPEUTICS- (OS/RS)**

**Q.P. CODE: 3424**

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

### **LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Explain the kinematics and kinematics of patellofemoral joint
2. Define gait cycle. Explain the sagittal plane analysis of gait
3. Explain the kinetics and kinematics of cervical vertebrae

### **SHORT ESSAYS (Answer any Ten)**

**10 x 5 = 50 Marks**

4. Discuss the common postural deviations
5. Screw home mechanism of knee joint
6. Explain in detail about sacroiliac joint
7. Explain about lumbo-pelvic rhythm
8. Explain about kinematics of ankle joint in detail
9. Explain about hip joint forces and muscle function in unilateral stance
10. Explain about phases of stair gait
11. Role of ACL in knee joint stability
12. Explain about plantar arches and its significance in detail
13. What are assistive devices? Write a brief note on the effects of assistive devices used in elderly
14. What is dependent transfer? Discuss about the transfer technique from bed to wheelchair
15. Explain the role of abductors in hip joint stability

### **SHORT ANSWERS (Answer any Ten)**

**10 x 3 = 30 Marks**

16. Ligaments of hip joint
17. What are spatiotemporal parameters?
18. What is the significance of patella on quadriceps muscle function?
19. Genu recurvatum
20. What anteversion and retroversion of femur?
21. What is functional ambulation?
22. Types of cane
23. Trendelenburg gait
24. Functions of pelvic floor muscles
25. Brief note on deformities of ankle joint
26. Functions of thoracolumbar fascia
27. Muscles responsible for the extension of knee joint

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