

Rajiv Gandhi University of Health Sciences, Karnataka
III Semester Bachelor of Occupational Therapy Degree Examination – 21-May-2026

Time: Three Hours

Max. Marks: 100

BIOMECHANICS (GENERAL & UE) and ERGOTHERAPEUTICS (OS/RS)

Q.P. CODE: 3420

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. Discuss biomechanics of elbow complex with respect to its articulation and muscle action
2. Define vicarious movements. Discuss various types of vicarious movements with example
3. Discuss biomechanics of sternoclavicular joint with respect to articulating surface, ligaments, motions and stress tolerance

SHORT ESSAYS (Answer any Ten)

10 x 5 = 50 Marks

4. Discuss structure of Metacarpophalangeal joints of the fingers
5. Discuss the role of muscle synergies in postural control
6. Discuss different types of displacement with examples
7. Discuss ligaments of radio-ulnar joints
8. What is linear force system? Discuss how to determine resultant forces in a linear force system
9. Discuss Lumbricales muscles
10. Discuss deviation movements at wrist joint
11. Discuss first class lever system with an example related to human body
12. Discuss contribution of rotator cuff muscles in glenohumeral stabilization
13. Discuss how centre of mass changes with different movements in the body to maintain stability
14. Discuss compression and distraction injuries of elbow joint
15. Discuss trade offs of mechanical advantage

SHORT ANSWERS (Answer any Ten)

10 x 3 = 30 Marks

16. Discuss Newton's law of inertia
17. Briefly discuss torque
18. Draw a neat and labelled diagram of extensor mechanism
19. Discuss the effect of distraction forces on the joint
20. Discuss effect of age on posture
21. Discuss role of rhomboid muscle in shoulder complex
22. Discuss angle of inclination and angle of torsion with diagram
23. Enumerate muscles of the thumb and state its action
24. Write a note on tensile forces
25. Discuss Acromioclavicular joint with respect to its articulation
26. Discuss planes around human body with a diagram
27. Discuss lordosis and kyphosis
