

**Rajiv Gandhi University of Health Sciences, Karnataka**  
**III Semester Bachelor of Occupational Therapy Degree Examination – 21-Nov-2025**

**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. Explain the kinetics and kinematics of elbow joint.
2. Define biomechanics and its branches. Write in detail about the types of motion, location of motion and direction of motion.
3. Explain the structure and function of hand complex.

**SHORT ESSAYS (Answer any Ten)**

**10 x 5 = 50 Marks**

4. Define lever. Explain the second class lever with example from the human body.
5. Explain different types of prehension.
6. Explain the dynamic stabilisers of shoulder joint.
7. Define gravity. What is its effect on static stability of human body?
8. Discuss various type of vicarious movements.
9. Explain the extensor hood mechanism of the hand.
10. Enumerate the spinal postural deviations in frontal and sagittal plane.
11. What is ulnar claw hand?
12. Define posture. Explain the muscle synergies.
13. Explain the arthrokinematics of shoulder joint.
14. Define linear, parallel and concurrent force systems with examples.
15. What are the factors that affect posture?

**SHORT ANSWERS (Answer any Ten)**

**10 x 3 = 30 Marks**

16. Explain Swan neck deformity.
17. What is mechanical advantage?
18. Enumerate the bones and joints forming the wrist complex.
19. How does the shape of clavicle contribute to elevation of the arm?
20. Draw a labelled diagram of a force vector and define it.
21. What are annular pulleys of the hand?
22. Enumerate the movements at the radioulnar joints.
23. What is nurse maid's elbow?
24. What is lateral epicondylitis?
25. Which is the weakest grip and why?
26. What is the origin and insertion of trapezius and its role in shoulder movement?
27. Define perturbation and its types.

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