Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.P.T. Degree Examination – 02-Nov-2026

Time: Three Hours **Max. Marks: 100 Marks**

BIO-MECHANICS (RS - 5)
Q.P. CODE: 2734

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary.

LONG ESSAYS (Second Question choice) **2 x 10 = 20 Marks**

1. Describe biomechanics of patella-femoral joint.
2. Discuss in detail kinetics and kinematic of thoracic rib cage.
   Or
   Define levers. Explain the different types of levers with anatomical examples

SHORT ESSAYS (Question No.3 & 12 choice) **10 x 5 = 50 Marks**

3. Describe the structure of Interverterbral joint.
   Or
   Define levers. Explain in detail class three levers with example.
4. Describe the load deformation curve.
5. Describe screw home mechanism of knee joint.
6. Define gait cycle- explain the phases of gait cycle.
7. Explain scapulo-humeral rhythm.
8. What are two joint muscles? Explain active insufficiency with example.
9. Describe pronation and supination twist.
10. Describe bio mechanics of shoulder joint.
11. Define arches of Foot.
12. Define prehension. Explain the types of prehension.
    Or
    Describe briefly biomechanics of wrist complex.

SHORT ANSWERS **10 x 3 = 30 Marks**

13. Define COG and BOS.
14. What is angle of inclination?
15. Mention the types of muscle contraction.
16. List the types of joint lubrication.
17. Define Genu valgum.
18. Define ulnar positive variance and ulnar negative variance.
19. Define Newton’s second law.
20. What is Plumb line?
21. Define active insufficiency.
22. Define carrying angle.

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