

**Rajiv Gandhi University of Health Sciences, Karnataka**  
**I Year B.P.T Degree Examination – 10-Jan-2022**

**Time: Three Hours**

**Max. Marks: 100 Marks**

**BIO-MECHANICS (RS5)**

**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. Define lever and explain in detail about types/orders of levers with examples and neat diagram.
2. Discuss in detail about forces acting around hip joint in unilateral stance.

**OR**

Describe the structure of lumbar vertebrae in detail and add a note on Lumbo - pelvic rhythm.

**SHORT ESSAYS (Question No 3 & 12 choice)**

**10 x 5 = 50 Marks**

3. Explain stress - strain curve in detail.

**OR**

Define End feel and discuss about various types of End feel.

4. Describe mechanics of rib cage.
5. Explain factors affecting muscle tension.
6. Describe kinematics of wrist joint.
7. Define goniometry, its principles, types and uses.
8. Define friction and its types.
9. Describe briefly determinants of gait.
10. Explain active and passive insufficiency with example.
11. Describe plantar arches and its significance.
12. Describe structure of Knee joint in detail.

**OR**

Explain briefly sequence of events occurring in muscle contraction.

**SHORT ANSWERS**

**10 x 3 = 30 Marks**

13. What is Ante version and retro version?
14. Define carrying angle.
15. What is close packed position and loose packed position?
16. Define motor unit.
17. What are the muscles of expiration.
18. Write briefly palmar arches.
19. Name the ligaments supporting shoulder joint
20. Name the anatomical pulleys in human body
21. What is Trendelenberg gait?
22. Define kinematics and Kinetics.

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