

# Rajiv Gandhi University of Health Sciences, Karnataka

**I Year B.P.T. Degree Examination - 10-Mar-2021****Time: Three Hours****Max. Marks: 100 Marks****BIO-MECHANICS (RS4)****Q.P. CODE: 2707**

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. Explain the articulation of shoulder joint and add note on static and dynamic stability of shoulder.
2. Explain the biomechanics of lumbar spine.

OR

What is posture? What is postural reflex? Explain the sagittal plane analysis of the posture.

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

3. Write a note on kinematic chains.

OR

What is the functional unit of a muscle? Explain various types of muscle fibers.

4. Movements of rib cage during breathing - Explain the role of inter costal muscles in breathing.
5. Explain the movements of temporomandibular joint.
6. Define levers. Explain the orders of levers and its use in physiotherapy.
7. Extensor mechanism of finger and its function
8. What is a joint? Explain the synovial joint and its classification with examples.
9. Describe the weight bearing of hip joint and add a note on muscle forces in unilateral stance.
10. Supination twist
11. Describe patella femoral articulation and PFJ reaction forces.
12. Describe the structure of elbow joint and explain the factors affecting the stability of the joint.

OR

Explain the motions of pelvis at hip joint.

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

13. Plantar aponeurosis and its functions.
14. Spurt and shunt muscle.
15. Running gait.
16. Function of anterior cruciate ligament.
17. Tipping of scapula.
18. Lateral prehension.
19. Coxa valga and its biomechanical effect in stability.
20. Flat foot : definition and types.
21. Young's modulus.
22. What is the normal physiological angulation of the knee joint and its significance.

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