



**Second Year BPT Degree Supplementary Examinations - April 2014**

**BIOMECHANICS**

**Time : 3 hrs**

**Max marks : 100**

- Answer all questions
- Draw diagrams wherever necessary

**Essays**

**(2x10=20)**

1. Explain in detail the articulations of the shoulder complex and add a note on its static and dynamic stability
2. Define posture and explain sagittal analysis of posture

**Short notes**

**(10x5=50)**

3. Describe COG, LOG and BOS
4. Explain in detail the biomechanics of lifting
5. Explain the phases and kinematics of stair climbing
6. Explain the structure of a synovial joint
7. Explain the role of intrinsic muscles of the hand
8. Define stress and strain. Add a note on load deformation curve
9. Describe the structure of the radio-ulnar joint
10. Define gait and classify the various phases & sub phases of the gait cycle
11. Explain the movements of the sacroiliac joint
12. Describe the role of patella in the knee joint

**Answer briefly**

**(10x3=30)**

13. Define inertia
14. Describe the functional position of the wrist and the hand
15. Angle of pull of a muscle
16. Define cadence
17. Centre edge angle
18. Movements of the TMJ joint
19. Hysteresis
20. Angle of torsion of femur
21. Pivot joint with example
22. Palmar arches

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