

Second Year BPT Degree Examinations - October 2013

BIOMECHANICS

Time : 3 hrs

Max marks : 100

- Answer all questions
- Draw diagrams wherever necessary

Essays (2x10=20)

1. Explain in detail about analysis of posture in sagittal plane and mention the deviation from normal posture
2. What are the components of shoulder complex. Explain about the scapula humeral rhythm in detail

Short notes (10x5=50)

3. Resolution of forces
4. Explain the role of intrinsic muscles of the hand
5. Angulation of femur
6. Explain the structure and role of menisci in the knee joint
7. Describe the sub-talar joint motions and the axis around which these motions occur
8. Deviations from optimal alignment in the sagittal plane of the knee
9. Mention the distance and time variables of gait
10. Radioulnar joint
11. Explain the kinematics of the cervical spine
12. Explain the role of patella as an anatomic pulley at the knee joint

Answer briefly (10x3=30)

13. Pronation twist of the foot
14. Explain ground reaction force
15. What is joint lubrication and mention its types
16. Closed chain exercises
17. Resting position of the scapula
18. What is osteokinematics and arthrokinematics
19. Mention the difference between active and passive insufficiency
20. Classification of joints
21. Waddling gait
22. Axis and planes of the body
