

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.P.T. Degree Examination - April-2014

Time: Three Hours

Max. Marks: 100 Marks

BIO-MECHANICS (Revised Scheme – 4)

Q.P. CODE: 2707

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. Define gait and gait cycle. Explain in detail the determinants of gait.
2. Discuss in detail dynamic stability of Gleno-humeral joint.
3. Explain the structure of typical lumbar vertebrae. Add a note on function of the lumbar spine.

SHORT ESSAYS (Answer any Twelve)

12 x 5 = 60 Marks

4. Define equilibrium. Discuss types of equilibrium with examples.
5. Write in detail the formation of arches in hand with its functions.
6. Define joint. Classify with examples and add a note on features of the synovial joints.
7. Explain the orders of lever with examples in human body and also role of levers in physiotherapy.
8. Explain in detail the mechanism of muscle contraction.
9. Write extensor mechanism of hand and add a note on its function.
10. Brief-out weight bearing of hip joint and explain the muscle function in unilateral stance with example.
11. Write a note on sterno-clavicular joint movements.
12. Write in detail the extensor mechanism of knee. Mention the ligaments of the knee.
13. Explain active insufficiency with an example.
14. What is the functional position of the hand? Explain biomechanics of grips with an example.
15. Kinetics of posture
16. Metatarsal break
17. Movement analysis – sitting to standing

SHORT ANSWERS

10 x 2 = 20 Marks

18. Index of insall and salvitii
19. Function and control of disk of temporomandibular joint
20. Hysteresis
21. Moment arm of force
22. Carpal tunnel syndrome
23. Nutation and counter Nutation
24. Carrying angle and its importance
25. DOMS
26. What are the changes occur in IVD under compression loading
27. Anatomical pulley