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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.P.T. Degree Examination - OCT-2019

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 cycle and explain in detail about sagittal plane analysis of Gait.
2. Define Force and explain in detail **about** force components with examples.
3. Explain in detail about structure and function of Hip joint, and add a note of unilateral stance.

SHORT ESSAYS (Answer any Twelve) **12 x 5 = 60 Marks**

4. Discuss in detail about plantar arches.
5. Define posture and mention about various types of abnormal posture.
6. Discuss the biomechanics of Knee joint.
7. Enumerate various grips of **Hand** in detail.
8. Mention in brief about viscoelectric properties of connective tissue.
9. Scapulo-humeral rhythm
10. Classify different types of Muscle contraction with examples.
11. Define Equilibrium and add a note on different types of equilibrium.
12. Explain in brief about postural control.
13. Enumerate synovial joints in detail.
14. Explain **the** locking and unlocking mechanism of Knee joint.
15. Pronation and Supination twist
16. Parallel force systems
17. Explain in brief about arthrokinematics and osteokinematics of Elbow Joint.

SHORT ANSWERS **10 x 2 = 20 Marks**

18. Static and Dynamic friction
19. What are Tonic and Phasic muscles?
20. Metatarsal break
21. Patella alta and patella baja
22. What is Plumb line measurement?
23. Angle of Inclination
24. **Name the** Expiratory muscles.
25. Static and Dynamic balance
26. Cadence
27. Define Mechanical advantage.

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