

**VINAYAKA MISSION'S RESEARCH FOUNDATIONS, SALEM
(Deemed to be University)**

BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION

August 2019

Second Year

BIOMECHANICS AND KINESIOLOGY

Time: Three hours

Maximum: 100 Marks

Answer **ALL** questions.

I. ESSAY:

(2 x 20 = 40)

1. Explain the structure configuration of hip joint in relation to weight bearing in unilateral and bilateral stance along with factors contributing for its stability.
2. Discuss the biomechanical analysis of Running gait versus walking.

II. SHORT NOTES:

(8 x 5 = 40)

3. What is Mechanical advantage? Explain Mechanical advantage in relation to pulleys.
4. Explain the mechanics of rib cage movement during inspiration.
5. IVD – its structure and function.
6. Squat lifting Vs stoop lifting.
7. Scapulohumeral rhythm.
8. Extensor mechanism of wrist and hand.
9. Locking and unlocking mechanism of knee joint.
10. Cumulative strain in tendons.

III. SHORT ANSWERS:

(10 x 2 = 20)

11. Convex – concave principle.
12. Vertical steering muscle of shoulder joint.
13. Enthesis
14. Draw the feiss line.
15. State two functions of volar plate.
16. Golgi tendon.
17. Patella baja
18. Dowager's hump
19. Gluteus medius limp
20. What are the pelvic floor muscles?