

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

**BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION  
September 2021  
Second Year**

**BIOMECHANICS AND KINESIOLOGY**

Time: Three hours

Maximum: 100 Marks

Answer **ALL** questions.

**I. ESSAY:** (2 x 20 = 40)

1. Discuss the structure, function, locking and unlocking mechanism of tibiofemoral joint. Add a note on function of menisci.
2. Define gait. Discuss in detail gait cycle and determinants of gait. Mention any five pathological gait.

**II. SHORT NOTES:** (8 x 5 = 40)

3. Close and open kinematic chain.
4. Group action of muscle.
5. Arches of foot.
6. Muscle length- tension relationship.
7. Triangular fibro cartilage complex.
8. Postural deviations.
9. Prehension and precision.
10. Bursa around knee.

**III. SHORT ANSWERS:** (10 x 2 = 20)

11. Define mechanical advantage.
12. Scapulo- humeral rhythm.
13. Difference between coxa valga and coxa vara.
14. Functional position of wrist.
15. Lumbosacral angle.
16. Anti- gravity muscles.
17. Intervertebral disc.
18. Tidemark.
19. Coraco acromial arch.
20. Q angle.