

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0921]

**SEPTEMBER 2021
(MAY 2021 EXAM SESSION)**

Sub. Code: 3901

**POST GRADUATE DIPLOMA IN BIOMECHANICS AND KINESIOLOGY IN SPORTS AND FITNESS
(From 2018-2019 onwards)
PAPER I – BIOMECHANICS
*Q.P. Code : 363901***

Time : Three hours

Answer ALL Questions

Maximum : 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

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

II. Write Short Notes on:

(10x6 = 60)

1. Locking and unlocking of knee
2. Osteokinematics and Arthrokinematics.
3. Active and Passive insufficiency
4. Isokinetic exercise.
5. Tennis and nurse – maid's Elbow.
6. Q angle of knee joint.
7. Describe dynamic stabilization of glenohumeral joint.
8. Ways to reduce the force acting on the femoral head.
9. Mechanical advantage - therapeutic use.
10. Power grip.
