

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

[AHS 0222]

**FEBRUARY 2022
(OCTOBER 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. Write in detail about Biomechanics of knee joint?
2. Explain in detail about Biomechanics of Throwing?

II. Write Short Notes on:

(10x6 = 60)

1. Define torque, and discuss the characteristics of a torque?
2. Discuss the relationships between force, pressure, work, energy, and power?
3. Define stress, strain, elastic region, plastic region, yield point, failure point, and elastic modulus?
4. Describe the various reference systems, relative versus absolute?
5. List the factors that influence muscle strength?
6. Describe the scapula humeral rhythm?
7. Describe stress – strain curve for tendon and ligaments?
8. Explain Newton's Laws with Example?
9. Define Work, Power, Energy and Friction?
10. Describe angular and linear kinetics?
