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Master of Physiotherapy (M.P.T.)

2nd YEAR EXAMINATION, 2011-12

BIOMECHANICS

Time : 3 Hours]

[Max. Marks : 100

Note: Attempt all questions. All questions carry equal marks.

1. Describe length tension relationship of a muscle. [20]
Discuss the factors associated with force generation in muscles.

OR

Describe the mechanical properties of a tendon in detail.

2. Explain the Kinesiological Electromyography and its applications in Physiotherapy. [20]

OR

Discuss in detail the testing procedure for Isokinetic Dynamometer.

3. Explain the Spatio temporal variables of gait cycle. [20]
Also discuss the determinants of gait.

OR

Explain the biomechanics of stair climbing.

4. Write short notes on any four. [5×4=20]

- (i) Subtalar joint motion
- (ii) Patellofemoral JRF
- (iii) Electronic Goniometer
- (iv) Projectile motion
- (v) Parallel force system

(vi) Friction

(vii) Types of equilibrium

(viii) Modulus of elasticity

5. Explain the pulmonary mechanics involved in [20]
breathing and also in the gaseous exchange.

OR

Explain the static and dynamic mechanics responsible
for the stability of Glenohumeral joint at rest and
during movement.

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