

P P SAVANI UNIVERSITY

Fifth Semester of B. P.T. Examination
October 2021

SPPT3050 BIOMECHANICS AND KINESIOLOGY

06.10.2021, Wednesday

Time: 10:00 a.m. to 1:00 p.m

Maximum Marks: 70

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION - I

Q - 1 Essay Question (Any One) [10]

- (i) Describe articulations of the Transverse tarsal joint? What is general function of transverse tarsal joint in relation to the subtalar joint?
- (ii) Explain Weight bearing Subtalar joint motion?

2 Short Note (Any Two) [10]

- (i) How does Pronation twist of the tarsometatarsal joints relate to the supination of the Subtalar joint?
- (ii) How does extension of the metatarsophalangeal joints contribute to stability of the foot?
- (iii) Explain effect on the leg (tibial motions) of weight bearing subtalar joint motion?

Q - 3 Very Short Notes (Any Five) [15]

- (i) Forefoot varus
- (ii) Sesamoid bones of First MTP joint
- (iii) Hallux rigidus
- (iv) Tarsometatarsal rays
- (v) Close packed position for Subtalar joint
- (vi) Ligaments and their components which support Ankle joint
- (vii) Iliotibial band

SECTION - II

- Q - 1 Essay Question (Any One) [10]**
- (i) Write about Patellofemoral joint mechanics
 - (ii) Write about static and dynamic stabilizers of Shoulder joint
- Q - 2 Short Notes (Any Two) [10]**
- (i) Write down mechanics of Elbow joint
 - (ii) Write down the kinematic principle of Scapulo-Humeral Rhythm
 - (iii) Write down the difference between Power grip and Precision handling of Prehension activity.
- Q - 3 Very Short Notes (Any Five) [15]**
- (i) Thoracolumbar fascia
 - (ii) Core Stability and muscles
 - (iii) Bursa around knee joint
 - (iv) Exaggerated Lumbar Lordosis
 - (v) Central column of Wrist joint
 - (vi) Ligaments of Acromio -Clavicular Joint
 - (vii) Difference between Kinematics and Kinetics.
