**GrandAssignment**

**Course Title: Biomechanics And Ergonomics I**

**DPT 2nd semester section B**

**Instructor: Dr.M .Shahzeb khan (PT)**

 **Marks: 20**

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**Note:**

**INTERNAL ASSESSMENT MARKS WILL BE GIVEN ON BASIS OF GRAND ASSIGNMENT**

**Q1:**Explain “Biomechanics of Articular cartilage”

ANS:cartilage: cartilage is a soft bone.cartilage is smooth elastic tissue,cartilage like padding that covers and protects the ends of long bones at the joints,cartilage protects joints and facilitates movement between two bones.

Biomechanics of articular cartilage.Articular cartilage is a thin layer of specialized connective tissue with unique viscoelastic properties. Its principal function is to provide a smooth, lubricated surface for low friction articulation and to facilitate the transmission of loads to the underlying subchondral bone.Cartilage treated as a biphasic material with.Interstitial fluid phase.proous-permeable solid phase.cartilage is a highly stressed material.

Intrinsic mechanical properties must be determined.

**Q2:** Explain “Biomechanics of Tendon and Ligament”

ANS:Tendon: Tendon is a band of tissue that connects muscle to bone.

.Ligament: ligament is an elastic band of tissue that connects bone to bone.and provides stability to the joint.

.Biomechanics of tendon and ligament.Tendons connect muscles to bone.tendon consist of bundle of collagenous fibers arrange in parallel.they are arranged this way to form cords which have great tensile strength.

.Biomechanics of tendons and ligaments.Tissue reconstruction looks at the structure and function of tendons and ligaments.Tendons and ligaments are connective tissues that serve as the force transmitting entities and enable musculoskeletal motion.typical features of normal tendon tissue are parallel-aligned collagen i fibers and tenocytes.

ALL THE STUDENTS ARE REQUESTED TO UPLOAD YOUR ASSINGMENT BEFORE FINAL TERM EXAM.