SUBJECT NO-ME60430, SUBJECT NAME- MECHANICS OF HUMAN BODY

LTP- 3-1-0,CRD- 4

SYLLABUS :-

Introduction to Biomechanics: Basic terminology and concept of human musculoskeletal system, anatomy and overall function. Biomechanics of Tissues and Structures of musculoskeletal system – composition, structure and biomechanical behaviour: bone, articular cartilage, muscle, tendon and ligament.; Biomechanics of joints – structure, range of motions, musculoskeletal model of forces: (i) hip; (ii) knee; (iii) shoulder; (iv) elbow; (v) spine. Lubrication of joints. Motion and gait analysis – method, gait cycle, segmental kinetics, engineering approaches to posture analysis. Joint replacement and fracture fixation – stress analysis and basic design approach, failure mechanisms, wear in joint arthroplasty, bone remodelling, biomaterials – properties and application.