PhD entrance syllabus Orthopedic and Sports Physiotherapy

Postural dysfunction	• Postural, dysfunction & derangement. • Quebec task force classification of spinal disorders • Assessment and treatment procedures • Back pain
Assessment and evaluation in sports	• Evaluation of physical fitness: assessment of strength, power, endurance (muscular & cardiac), vo2max, flexibility, reaction time and pulmonary function. • Assessment of lower limb complex: pelvis, hip, thigh, knee, leg, ankle and foot • Assessment of upper limb complex: shoulder girdle, shoulder, arm, elbow, forearm, wrist and hand. • Assessment of spinal column: cervical, thoracic and lumbosacral, tests of neural tension. • Evaluation of injuries in old age sportsperson
Exercise physiology	• Energy systems • Physiological responses, changes & adaptations to various exercises - aerobic exercises & anaerobic exercises • Aerobic/anaerobic glycolysis • Sports specific training and cross training. • Vo2 max and o2 debt and deficit and recovery • Onset of blood lactate accumulation
Strength testing and motor control	• Definition, details of effects and uses of therapeutic exercises including open chain, closed chain and functional exercises • Plyometric exercises, Isokinetic exercises, strength training, power training, flexibility training, endurance training, plyometric, reaction timing, proprioceptive training • Theories of motor control and motor learning • Neuromusculoskeletal systems; movement development • Causes and mechanisms of abnormal movement • Injury and recovery of function • Application of motor control and motor learning theory into clinical practice • Functional stability retraining: principles and strategies