

School of Studies in Physical Education Pt. Ravishankar Shukla  
University, Raipur (C.G.)  
Syllabus for Ph.D. Entrance 2021

**Unit I**

Physiology of Muscular activity, Neurotransmission and movement mechanism.  
Effect of exercise on cardio-respiratory systems  
Bioenergetics and recovery process.  
Work capacity under different environmental conditions.  
Physiological aspect of development of different physical fitness components, warm-up, cool down and fatigue .

**Unit II**

Joints and their movements – planes and axes.  
Kinetics, Kinematics – linear and angular, levers.  
Laws of motion, Principle of equilibrium and force, spin and elasticity.  
Posture, postural deformities and their correction.  
Muscular analysis of motor movement.  
Mechanical analysis of fundamental movements – (funning, Jumping, throwing, pulling and pushing).

**Unit III**

Learning process – theories and laws of learning.  
Motivation, theories and dynamics of motivation in sports.  
Psychological factors affecting sports performance – viz., stress, anxiety, tension and aggression.  
Personality, its dimensions, theories, personality and performance.  
Individual differences and their impact on skill learning and performance.  
Group dynamics, team cohesion and leadership in sports. Sociometrics, economics and politics in sports. Media and sports.

**Unit IV**

Sports Medicine aim and objectives . Athletic injuries – their management and rehabilitation.  
Therapeutic modalities. Massage manipulation and therapeutic exercises Doping.  
Nutrition and dietary manipulations. Somatotype ( Heath and Carter) Health-related fitness,  
Diabetes ,heart disease, blood pressure, obesity and its management Adapted physical education, Aging and sports, Women and sports.

**Unit V**

Characteristics and principles of sports training. Training load and periodization.  
Training methods and specific training program for development of various motor qualities.  
Technical and tactical preparation for sports.  
Short-term and long-term training plans.  
Sports talent identification – process and procedures.

Preparing for competition – (build up competitions, main competition, competition frequency, psychological preparation). Rules of Games and Sports and their interpretations.

## Unit VI

Nature, scope and type of research. Formulation and selection of research problem. Sampling – process and techniques.

Methods of research. Data collection – tools and techniques. Statistical techniques of data analysis – measures of central tendency and variability, correlation, normal probability curve, t-test and f-tests, chi-square, z-test. Hypothesis – formulation, types and testing. Writing research report.

## Unit VII

Concept of test, measurement and evaluation. Principles of measurement and evaluation. Construction and classification of tests. Criteria of test evaluation. Concepts and assessment of physical fitness, motor fitness, motor ability and motor educability. Skill test for Badminton, Basket ball, Hockey, Lawn-tennis, Soccer, Volley Ball. Testing psychological variables – competitive anxiety, aggression, team cohesion, motivation, self-concept. Anthropometric measurements and body composition.