

# **JSPM University Pune**

## **Syllabus for Ph.D. Research Program Entrance**

**Test (RPET) 2023**

### **Physical Education**

#### **Unit-1 Foundation of Physical Education**

- Introduction to and definition, aims and objectives of Physical Education
- Philosophical basis of Physical Education
- Psychological basis of physical Education-Play and Play theories.
- General principles of growth and development, Principles of motorskill acquisition, transfer of training effects.
- Sociological basis of physical Education-socialization process, social nature of men and physical activity, traditions and sport, competition, and cooperation
- Olympic Movement-and its impact
- Professional preparation in Physical Education in India, development of teacher education in Physical Education, Professional Ethics, Qualities and Qualifications of Physical Educational Personnel
- Principles of curriculum planning, Age characteristics of pupils and selection of activities.
- Construction of class and school physical Education timetable.
- 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

#### **Unit-2 Scientific Basis of Physical Education**

- Physiology of muscular activity, Neurotransmission and Movement mechanism
- Physiology of respiration
- Physiology of blood circulation
- Factors influencing performance in sports.
- Bioenergetics and recovery process
- Health-Guiding principles of health and health education
- Nutrition and dietary manipulations
- Health-related fitness, obesity, and its management
- Environmental and occupational hazards and first aid
- Communicable diseases-their preventive and therapeutic aspects

- School health program and personal hygiene
- Theories and principles of recreation.
- Recreation program for various categories of people

### **Unit—3 Fitness & Sports Training**

- Characteristics and principles of sports training
- Training load and periodization – short term & long-term plan
- Training methods and Designing training program for development of various motor qualities.
- Training cycles (Micro, Meso & Macro cycles)
- Technical and Tactical preparation for sports.
- Sports talent identification process and procedures
- Preparing for competition-build up competitions, main competition,
- Competition frequency, psychological preparation.
- Biological basis of physical activity-benefits of exercise, growth and exercise, exercise and well-being sex and age characteristics of adolescent. body types
- Basic Principles of Physical Fitness
- Benefits of aerobic exercises, monitoring heart rate, developing aerobic exercise program- setting goals, applying FITT, building & maintaining aerobic fitness,
- Benefits of muscular strength & endurance, assessing muscular strength & endurance, creating a successful strength training program,
- Applying FITT principle, weight machines versus free weights, weight training safety,
- Determinants of flexibility, benefits & additional potential benefits of flexibility & stretching exercises, Flexibility improvement- FITT principle

### **Unit-4 Biomechanics, Athletic care & Rehabilitation**

- Joints and their movements-planes and axes
- Kinetics, Kinematics-linear and angular, levers
- Laws of motion, principles of equilibrium, force, spin, and elasticity
- Muscular analysis of Motor movement
- Mechanical analysis of various sports activities
- Mechanical analysis of fundamental movements- running, jumping, throwing, pulling, and pushing
- Athletic injuries-their management and rehabilitation
- Therapeutic modalities and exercise
- Ergogenic aids and doping
- Posture – Postural Deformities

### **Unit—5 Research, Statistics, Evaluation & Management of Physical Education & Sports**

- Nature, scope and type of research, ethical consideration in 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 chisquare, ANOVA
- Hypothesis-formulation, types, and testing of null hypothesis
- Concept of test, measurement, Evaluation & Assessment
- Basic Approaches and Principles of measurement and evaluation
- Construction of knowledge test and Psychomotor test
- Criteria of test selection
- Concepts and assessment of physical fitness, motor fitness, motor ability and motor educability and skill tests (Basketball, Soccer, Volleyball, Badminton, Tennis)
- Measurement of Affective Behavior: Likert Scale, Rating Scale and Questionnaire
- Psychological measurement in sports and Exercise -competitive anxiety, aggression, team cohesion motivation, self-concept.
- Anthropometric measurements and body composition.
- Concept and principles of management
- Management of infrastructure, equipments, finance and personnel, Media & Sports
- Instructional Process in Physical Education – essential elements, optimizing.
- learning, effectiveness, class management, methods & techniques of teaching

#### **Unit—6 Yoga, recreation, pedagogy, adapted physical education.**

- Meaning, definition, need & importance of yoga, Historical background of yoga, types of yoga, Ashtanga Yoga (Eight stages of yoga), Chitta Vrtti (Causes for the modification of the mind), Chitta.
- Viksepa (Directions & obstacles)
- Meaning & definition of Asanas, Pranayam, Bandha, & Kriya, Types of Asanas, Pranayam, Bandha, & Kriya, Need & importance of Asanas, Pranayam, Bandha, & Kriya, Benefits & effects of Asanas, Pranayam, Bandha, & Kriya
- Purpose, Aims and Objectives of Adapted Physical Education and Sports, Adapted Sports- Para Olympics
- Behavioral and Special learning disability, Visual Impaired and Deafness, Health Impaired students, and Physical Education, HRPF and its development for Individual with unique need
- Stages of skill development in teaching, sources of help, expert PE teacher, Effective teacher- Active teachers, contextual variations of active teaching
- Spectrum of teaching styles, managing behavior & misbehavior, discipline, Developmental analysis, planning for instruction

- Technology in Physical Education, Domains of Physical Education, Curriculum in Physical Education
- Generic instructional strategies- guided practice, independent practice, monitoring student performance, Instructional format active teaching, task teaching, teaching through questioning, peer teaching, cooperative learning
- Traditional methods for assessing teaching- intuitive judgment, eyeballing, anecdotal records, checklists, rating scale, Systematic observation records- event recording, duration recording, interval recording, group time sampling, self-recording.