



**GOVERNMENT OF TAMILNADU**

**DIRECT RECRUITMENT FOR THE  
POST OF POST GRADUATE ASSISTANTS /  
PHYSICAL EDUCATION DIRECTORS – GRADE-I**

**SYLLABUS**

**2024-2025**



**State Council of Educational Research and Training**

Chennai - 600 006.

# **SUBJECT : PHYSICAL EDUCATION**

## **SYLLABUS**

### **Unit I**

#### **PRINCIPLES OF MOTOR DEVELOPMENT**

Meaning of Motor Development, Motor Learning, Motor Control, Physical Growth, Maturation & Aging – Theoretical perspectives in Motor Development – Newell's Model of Motor Development – Principles of motion and stability – Motor Milestones – Development of motor skills across the lifespan – Motor Skills: Locomotor, nonlocomotor and manipulative skills – Movement concepts: Body, Space, Effort & Relationship – Sensory perceptual development: Visual, Kinesthetic, Auditory and Intermodal perception – Functional constraints in Motor Development.

### **Unit II**

#### **SKILLS, RULES AND REGULATIONS OF SPORTS AND GAMES (WITH REFERENCE TO RDG/BDG AND RD/BD COMPETITIONS OF TN GOVT.)**

Skills (Fundamental and Advanced Skills) – Physical, Technical and Tactical preparation – Rules and regulations – Duties of Officials – Methods of officiating – Official Signals – Scoring – Playfield dimensions, layout and marking – Equipment specifications- Organizational Set-up – Qualification and Qualities of Coach.

### **Unit III**

#### **RULES AND REGULATIONS OF ATHLETICS (WITH REFERENCE TO BDS OF TN GOVT.) AND CHESS**

**Athletics:** Techniques – Physical, Technical and Tactical preparation – Rules and regulations – Duties of Officials – FOP preparation – Equipment and implement specifications, layout and marking of track (400m Oval and Short track) and field events – Organizational Set-up.

**Chess:** Chessboard – Chessman – Values of Chessmen – Capturing – Attack – Checkmate – Technical and Tactical preparation – Rules and regulations – Duties of Officials.

### **Unit IV**

#### **TOURNAMENTS, SCHEMES AND AWARDS**

Tournaments at School, College & University level – Federation/Association tournaments at District, State, Regional, National, Asian and International Level – Sports schemes of State and Central Government including SDAT and SAI – State and National awards in Sports – Sports Hostel – Centre of Excellence – Incentives for sportsperson at state and National Level – Significant sports tournaments / trophies / sportspersons – CM Trophy – National Games – Asian Games – Olympic Games/World Cup – Organisational setup and functions of DSE, SCERT & DIET – Role of CIPE & DIPE.

**Unit V****HUMAN PERFORMANCE MEASUREMENT**

Concept of Tests and Measurements – Purpose of Tests, Measurements and Evaluation – Domain of Human Performance – Criteria for Tests Selection – Norm referenced & Criterion referenced reliability and validity – Developing knowledge based tests and Survey – Components of Physical Fitness – Assessment of Physical Fitness in Youth and Adults – Sports Skills Assessment – psychomotor tests – psychological measurements – Sports Analytics.

**Unit VI****GENERAL THEORY AND METHODS OF SPORTS TRAINING**

Principles of Sports Training – Training load components – Periodization in Sports Training – Individualization and Adaptation in Training Programs – Multilateral physical development – Sports Specific Physical development – Skill acquisition and Technique Development – Tactical and Psychological preparation – Recovery and Regeneration Techniques – Strength and Conditioning Methods – Endurance Training Strategies – Speed, Agility and coordination Training – Injury Prevention and Rehabilitation in Sports Training.

**Unit VII****EXERCISE PHYSIOLOGY AND SPORTS NUTRITION**

**Exercise Physiology:** Development and aging of body systems – Energy systems and metabolism – fatigue and recovery – Body temperature regulation – Endocrine Responses to Exercise – Cardiovascular Physiology – Respiratory Physiology – Neuromuscular Physiology.

**Sports Nutrition:** Macronutrients: Carbohydrates, Proteins and Fats – Micronutrients: Vitamins and Minerals – Fluids and Hydration Strategies – Pre-Exercise Nutrition – During-Exercise Nutrition – Post-Exercise Nutrition and Recovery – Nutrition for Athletes – Supplements in Sports Nutrition – Nutrition Strategies for Weight Management and Body Composition – Ergogenic aids – Doping.

**Unit VIII****RESEARCH PROCESS IN PHYSICAL EDUCATION AND SPORTS**

Meaning and Definition of Research – Need, Nature and importance of research in Physical Education – Types of Research: (i) Basic, Applied & Action research, (ii) Analytical Research (Philosophical, Historical, Meta Analysis), Descriptive Research, Experimental Research, Qualitative Research – Steps in research process – Formulation of hypothesis – Purpose of the literatures – Variables and its types – Data collection tools in Research – Research Design – Mechanism of writing thesis / dissertation – Method of Writing Research proposal, Research Synopsis, Research Paper & Abstract – APA format in Bibliography writing – Research ethics.

**Unit IX****STATISTICS IN PHYSICAL EDUCATION AND SPORTS**

Definition of Statistics – Types of Statistics – Data and its types (Nominal, ordinal, interval and ratio) – Variables and attributes – Parametric and non-parametric statistics – Measures of Central Tendency & Measures of Variability – Principles of Normal Probability Curve – Skewness and Kurtosis – Type I & II Error- Level of significance – Population & Sample – Types of Sampling: Probability and Non-Probability sampling – Concept of t-test, F-test & Correlation – Graphical Representation in Statistics.

**Unit X****MODERN TRENDS IN PHYSICAL EDUCATION AND SPORTS**

Biomechanical Analysis – Stress Management Techniques – Wearable Fitness Trackers – Virtual Reality Training – Data Analytics for Performance Enhancement – Technological innovation in equipment, surfaces/play fields and coaching – Sports and Games for Children with Special Needs (CWSN) – Interdisciplinary Approaches – Early Childhood Physical Literacy – Thirumoolar Astanga Yoga – Sport tourism.