

**Written Examination Syllabus for the post of Physical Director (Junior College)
in Residential Educational Institutions Societies**

14. Paper-II: Physical Education

I. Meaning & Definitions of Physical Education, - Aims and objectives- Foundations of Physical Education - Biological, Philosophical, psychological and Sociological aspects; need and importance of physical education; philosophy of physical education; socialization process - sports as cultural heritage of mankind - sports for all health for all; Physical education in ancient Greece & Athens,- physical education in India; Olympic movement - Historical development of Ancient and modern Olympic games.

II. Essential of Physical Education; concepts and principles of class management- Qualities and qualifications of physical educational personnel - duties & responsibilities; Organisation and administration of physical educational programme in educational; Institutions tournaments; Management of infrastructure, equipments, finance and personnel, Registers & Records methods of teaching; Principles of planning physical educational lessons- pupil- teacher relationship; Construction of physical education time-table. Principles of curriculum planning, curriculum designs, techniques of supervision; Techniques of Sports Management, Demonstration, Conference, Projects, Workshops, Bulletin and Public Relations and Administrations.

III. Research in Physical Education: Introduction to Research - Meaning - Definition - Nature and Scope - Characteristics - Need and importance of research in Physical Education.; Locating and selection of a Research problem, hypothesis formulation- types of testing; Collection of data, tools, sampling techniques Methods of Research - Historical research - Experimental research - Survey method & Case study method; Descriptive and Inferential Statistical Techniques for data analysis and interpretation.

IV. Anatomy and Physiology: Joints and their movements - Planes and axes - Classifications, Posture - Common deformities. Classification of Muscles; Structure and functions of Muscles, Tendons and types of Muscle fibres. Muscular Contraction - Role of Actin, Myosin, Sarcoplasm; Nervous system - co-ordination of muscular activity - Neuromuscular function; Motor and plate - Motor units - Neuromuscular transmission; Cardiovascular and Cardio-Respiratory system, Endocrine system, Hormones - Pituitary, Thyroid, Adrenal - Glands and their location - Parathyroid, Pancreas; Effect of exercise on body organs and systems ; Doping - Ergogenic Aids - Doping - National Anti-Doping Agency (NADA) - Effect of Exercise on Muscular, Cardio-respiratory and Endocrinal systems; Types of Sports injuries - Skin - abrasion, laceration, contusion, blisters, Haematoma - Bone injuries - Fracture and dislocations, Muscle injuries - sprain, Strains and cramps,

V. Kinetic & Kinematic Principles: Kinetic & Kinematic Principles, Meaning of equilibrium, Motion and force, Limitations upon the application of mechanical principles of fundamentals of sports. Factors which determine the degree of stability - Relationship of centre of gravity to equilibrium - Significance of equilibrium in sports; Motion - Newton's Laws of Motion - Laws of Gravitation and freely falling bodies, path of projectiles, special application of principles of projectiles to short put and long jump - of Rotary Motion and Linear Motion; Force - Definition and Meaning of the term Force -Factors of Force (Magnitude, direction and application) to sports - Centrifugal and centripetal forces and their application to sports;Friction; Work, power and Energy -Work done and Energy expended, Kinetic Energy, Potential Energy; Analysis of Activities - Mechanical and scientific analysis of techniques of different sports styles - Walking, running, jumping and throwing.

VI. Test, measurement and Evaluation: Need and use of Measurement and Evaluation in Physical Education; Criteria of a Good Test; Establishing procedure of validity, Reliability, objectivity and Norms; Tests for fitness - Physical Fitness Tests - Speedtest, Rogers Strength tests, Cardiovascular fitness tests (coopers tests, Tuttle pulse ratio test, hard ward step tests), AAHPERD Youth fitness

tests Muscular endurance tests (Bent - knee situps) ; Motor ability - General motor ability (Barrow and Scot) - Cozen Athletic ability - Motor educability - Indiana motor fitness test - Cozens motor ability tests.; Anthropometric measurements - General Body Measurements Height, weight, Circumferences length, leg length - Girth measurement - Body composition - Fat - Body mass - BMI, BMR Skin fold callipers; Game Skill Tests - Schmithals - French Field Hockey Test, Football Skill Test : Mc Donald Volleying Soccer Test, Volleyball Skill Test : Brady Volleyball ; Test, Russell - Lounge Volleyball Test, Basketball Skill Test : Badminton Test, Johnson Basketball Test.

VII. Sports Psychology : Meaning, concept, nature Definitions of Sports Psychology. Need and importance; Personality and types of Personality- well built sports personality; Emotions- positive, and negative emotions Motivation - Intrinsic and Extrinsic motivation; Role of motivation in sports; The principles of learning - theories of learning, laws of learning. Theory of use and disuse; Emotional Aspects of Sports Anxiety - reasons of anxiety - Measures to control anxiety; Anxiety and coaching intervention -

(i) Pre-competition Preparation (ii) Psychological intervention during competition (iii) Post Competition Evaluation - Arousal - Activation performance and emotion; Aggression and Hostility - Models of aggression - Aggression as an instinct - Frustration - Assessment of aggression - Reason for aggression in sports - factors to control aggression; Arousal and activation - Role of activation in sports - drive theory - sports performance

VIII. Sports training : Meaning, objectives and principles of sports training and talent identification; Various Training Methods - Strength, Speed and Flexibility Development - Strength Training. Speed Training. Endurance Training; isotonic - Isometric Interval Training Planning, and periodisation of Training Process load over load principle Aerobic training; Anaerobic training, Weight training, Fartlek Training, Interval training, Plyometric training, Resistance training, Pressure training; High Altitude training, Functional training, Repetition method of training, and Transfer of training effects; Specific training programme for development of various motor qualities.

IX. Nutrition, Therapy and Yoga: Food - Components / Ingredients Nutrients, Balanced diet, Diet before, During and after the activity. Diet and performance; First Aid and Physiotherapy - First-Aid - Guiding principles of First-Aid; Physiotherapy - Physiotherapy - Meaning definition and principles of physiotherapy, importance of physiotherapy in sports; Yoga -Yoga and its relevance to Physical Education; Yoga Asanas, Pranayama, Mudras and Kriyas - Yoga Vignana - A general survey of the preventive, promotive and curative aspects of Yoga techniques, Like Bronchial Asthma, Hypertensions, Arthritis and Diabetes; Meditations and Concentration - Meaning of Meditation, Concentration and their experiences - types of Meditation -Role of Meditation in relaxations; Effect of Yogic Practices on Different systems.

X. Officiating and Coaching : Meaning, Concept and Definitions - Qualifications and Qualities of good official and Coach - Duties and responsibilities an official and coach

XI. Rules, Regulations, Dimensions and officiating of the Following Games: a) Ball-Badminton, b) Cricket, c) Football, d) Hockey, e) Kabaddi, f) Kho-Kho, g) Tennis, h) Track and Field, i) Basketball, j) Badminton, k) Handball, l) Volleyball, m) Table - Tennis
n) Gymnastics, o) Swimming, p) Archery, q) Fencing r) Rifle / Pistol Shooting.