DETAILED SYLLABUS FOR THE POST OF POST OF ADDITIONAL DIRECTOR

(SPORTS AND YOUTH AFFAIRS DEPARTMENT) - Direct Recruitment

(CATEGORY NO. 564/2022)

MODULE 1

HISTORY AND FOUNDATION OF PHYSICAL EDUCATION

(Weightage: 6 Marks)

- Physical education and Adapted physical education - aims and objectives
- Philosophies of education as applied to physical education
- Growth and development of Physical Education in India
- Modern trends in physical education.
- Ancient and Modern Olympics games, Asian and Commonwealth games.
- Qualities, qualifications and responsibilities of physical education personnel at primary, secondary and higher education levels.
- Scope of physical education personnel in the promotion of health, fitness and wellness.
- Hierarchy of organizational set-up in physical education at schools, colleges and university level.
- Role of government, public and private sectors in the promotion of physical education and sports in the country.
- Curriculum development- Concepts and principles of curriculum planning.
- Subject matter for different levels of education - primary, secondary and higher education.
- Impact of technology in physical education and sports

MODULE 2

HEALTH AND FITNESS EDUCATION

(Weightage: 8 Marks)

- Definition of health and wellness
- Modern concept of Health and Physical education
- Dimensions of health
- Concept of fitness
- Components of fitness- HRPF, PRPF
- School health and community health programs, government policies for promoting health.
- Life style diseases and its prevention
- Nutrition and Classification of food
- Balanced diet
- Food Pyramid
- Calories and daily requirement of calories
- Vitamins and minerals (Deficiency Diseases)
- Malnutrition
- BMI and weight control
- Disease cycle, methods of disease transmission

MODULE 3

ANATOMY AND EXERCISE PHYSIOLOGY

(Weightage: 10 Marks)

- Structure and functions of various systems of the body
- Long term and short-term effects of exercise on various systems of the body
- Muscle- types of muscle and microscopic structure of muscle,
- Bioenergetics: Fuel for muscular work, (ATP), Energy of muscular contraction and biochemical changes during muscular contraction. Heat production and thermodynamics of muscle contraction.
- Neuro- muscular junction and coordination of muscular activity: Neuron and motor unit transmission of nerve impulse, bio-electric potentials, neuro-muscular junction and transmission of nerve impulse across it.
- Bio-chemical changes due to exercise, aerobic and anaerobic systems during rest sub maximal and maximal work
- Metabolism of energy, direct and indirect methods of measuring energy expenditure
- Influence and effect of exercise under various environmental conditions
- Nutrition for sports performance, caloric requirement for different age groups
- Physiological changes of aging and its consequences,
- Recovery process – physiological aspects of fatique, restoration of energy stores, recovery oxygen
- Ergogenic aids and its impact on sports performance
- Pro-prioception and Kinesthesis, Tone, Posture and equilibrium.

MODULE 4

BIOMECHANICS AND KINESIOLOGY

(Weightage: 10 Marks)

- Importance of biomechanics
- Biomechanical analysis of fundamental movements and major sports skills
- Planes and axis of human body
- Joints and their movements
- Muscle attachments: origin and insertion, action and leverage of the principal muscles
- Motion and laws of motion, linear and angular kinematics and kinetics.
- Projectile, friction, spin, impact, elasticity, force and its effects and application in sports
- Lever – its mechanical advantage and application in sports
- Posture and postural deformities
- Centre of gravity, equilibrium and stability
- Fluid mechanics- air resistance and water resistance
- Modern trends in biomechanics

MODULE 5

RESEARCH METHODOLOGY

(Weightage: 12 Marks)

- Research in Physical Education, importance and classification
- Ethical issues in Research
- Types of research, scope of research in physical education
- Research problem- formulation and location of the problem
- Preparation of a research proposal
- Preparation of research report, writing style, format, technical standard, bibliography and abstract.
- Tools of research -Questionnaires, opinionnaires interviews and observation.
- Statistical processes their importance and uses in research.
- Data and its types
- Normal Probability curve
- Sampling techniques- Probability and Non-Probability
- Statistical inference; Meaning of reliability factors affecting reliability.
- Differences between statistical and Null Hypothesis
- Standard error, Type-I and II errors, one tail and two tail tests
- Testing of hypothesis, level of significance, Degrees of freedom, standard procedure of systematizing hypothesis
- SPSS-Statistical packages for data analysis.

MODULE 6

TRAINING METHODOLOGY

(Weightage: 10 Marks)

- Sports training- aims, objectives and principles.
- Training load- concept of load and adaptation, relationship of load and recovery, super compensation
- Overload, its causes, symptoms and remedial measures.
- Strength- its characteristics, types of strength, factors determining strength and methods to develop strength.
- Endurance- its characteristics, types of endurance, factors determining endurance and methods to develop endurance.
- Speed- its characteristics, types of Speed, factors determining Speed and methods to develop speed.
- Flexibility-its characteristics, types of flexibility, factors determining flexibility and methods to develop flexibility.
- Coordinative abilities- its characteristics, types of coordinative abilities, factors determining coordinative abilities and development of coordinative abilities.
- Technique and tactical preparation- its characteristics and importance. technique training and its implication in various phases. Tactics and strategy.
- Planning- importance, types of planning and principles of planning.
- Periodization- types of periodization. Concept of different periods - Preparatory, competition and transitional.

- Talent identification- methods, criteria, factors and phases of talent identification.
- Recreation- meaning, importance and effect.

MODULE 7

SPORTS MANAGEMENT

(Weightage: 14 Marks)

- Management- its principles and theories.
- Scope of management in physical education and sports.
- Functions of management
- Organizations- types and organizational set up of various sports associations, clubs.
- Guiding principles for organizing physical education & sports programmes in institutions.
- Personnel management, Human resource management, office management
- Skills of management, Qualities and qualification of sports manager
- Financial management- objectives, purposes, principles and scope.
- Mechanics Of Purchase And Auditing
- Qualities and qualification of sports manager.
- Role of sports manager.
- Marketing management
- Planning and preparation of budget.

- Supervision, Techniques of supervision.
- Duties and responsibilities of a supervisor.
- Facility management- planning, procuring and maintenance of facilities- indoor and outdoor facilities. Planning and management of sports infrastructure.
- Leadership – meaning, types and qualities of a leader.
- Stock register and management of records.
- Managing sports events.
- Planning and management of sports infrastructure and equipments.
- Managing sports events.
- Advertising,public relation and sponsorship in sports.
- Qualification of public relation officer.
- Sports media and event management

MODULE 8

PSYCHOLOGY AND PEDAGOGY

(Weightage: 8 Marks)

- Meaning, nature and scope of Sports psychology, its importance in the field of physical education and sports.
- Education Psychology
- Growth and development of individual

- Theories of learning.
- Individual differences among learners
- Process of teaching and learning
- Concepts of inclusive education and understanding children with special needs.
- Motivation – types, techniques and guidelines for building motivation.
- Psychological factors affecting sports performance- Emotions, Anxiety aggression, stress, self confidence, concentration, mental practice and goal setting.
- Personality- meaning of personality, personality traits of sports persons.
- Cognitive process in physical activity, perception, thinking, imagination and memory in physical activities.
- Cohesion and its importance in sports
- Motor learning- factors affecting motor learning, motor development in various period of childhood and adolescence.
- Transfer of learning and its types with its implication in sports.
- Psychological aspects of competition- determinants of competitive behavior, psychological characteristics of pre-competition, competition and post competition, long and short-term preparation for competition.
- Psycho-regulative technique for activation and relaxation
- Presence of others, spectators and sports performance.

MODULE 9

TEST, MEASUREMENT AND EVALUATION

(Weightage: 10 Marks)

- Importance of test, measurement and evaluation in physical education and sports.
- Principles and processes of evaluation in physical education.
- Criteria for selecting a test
- Procedure for administrating a test.
- Classification of test and construction of standard knowledge and skill tests.
- Tests for fitness- Physical fitness, motor fitness, motor ability, health related fitness tests.
- Test for fitness components- strength, endurance, speed, flexibility and coordinative abilities.
- Major sports skill tests
- Anthropometric Measurements- land marks and measurement of various body segments, height, sitting-height, weight, diameters, circumferences, skinfolds, body mass index
- Somatotype.
- Grading and rating scales- purpose, types and methods of grading
- Testing of physiological factors- Blood pressure, breathing frequency vital capacity, heart rate, pulse rate, body temperature and body composition.

- Tests for psychological variables- Anxiety, aggression, team cohesion, achievement motivation, mental-toughness, and self-efficacy.

MODULE 10

SPORTS MEDICINE

(Weightage: 12 Marks)

- Types of injuries in sports:
- Skin injuries: Abrasions, lacerations, Incisions, puncture wounds, blisters, sunburn.
- Bone injuries: Fractures, Dislocations.
- Soft tissue injuries: Contusions, strains, sprains, overuse injuries.
- Therapeutic modalities in sports medicine: Physiological effects of heat and cold.
- Brief description of procedure, indications and contraindications of infrared, paraffin wax, contrast bath, Whirlpool, short wave diathermy, ultrasound, ice.
- Brief understanding of the following regional injuries, their assessment, immediate
- management and rehabilitation: Head injuries types: Scalp injuries, concussion, fracture, intra
- cranial bleeding, on field evaluation and management of unconscious athlete.
- Thermal injuries: Prevention and management of heat cramps, heat fatigue, heat exhaustion, heat stroke.
- Brief understanding of the special problems of the female athletes.

- Nutrition for the athlete, proximate principles of diet, pre-game meal, sugar & fluid intake during competition, carbohydrate loading.
- Doping: Definition, classification, Hazards and its control.

NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.