उ0प्र0 शिक्षा सेवा चयन आयोग, प्रयागराज।

Syllabus

Lecturer (PGT) - Physical Education
(Subject Code- 20)

Unit–1

History and Principles of Physical Education

- Meaning and definitions of Physical Education; aims and objectives of Physical Education.
- Need and importance of Physical Education.
- Relationship of Physical Education with other subjects.
- Origin and development of Physical Education from the Indian perspective: Physical Education during the Vedic, Puranic, and Medieval periods; contribution of Physical Education to the Indian freedom movement.
- Development and contribution of major Indian Physical Education institutions.
- Indigenous and traditional Indian games and activities.
- Major Indian sports awards, competitions, and sports venues.
- Eminent Indian sportspersons and their achievements.
- National and state-level Physical Education institutions at school, college, and university levels; special sports facilities and sports hostels in Uttar Pradesh.
- **Concepts of health and exercise in ancient India:** Yoga, Ayurveda, and ancient Indian health sciences; traditions of physical exercise and their relevance.
- **Physical Education curriculum:** Physical Education and sports under the National Education Policy (NEP) 2020; framework of sports curricula in schools.
- Importance **of Yoga:** Meaning and definitions of Yoga, forms of Yoga, and its impact on physical and mental health.
- **Philosophy of Physical Education:** Idealism, Naturalism, and Pragmatism.
- Olympic Movement and India's achievements in the Olympic Games.

Unit–2

Scientific Foundations of Physical Education

- **Biological basis of life:** Body types; influence of environment and heredity; growth and development (physical, mental, and social); individual differences and their implications in Physical Education.
- **Different types of age and their significance:** chronological age, physical age, physiological age, and mental age.

- **Psychological basis of Physical Education and sports:** Meaning, importance, and utility of sports psychology; psycho-physical unity of the human organism.
- **Psychological processes:** Learning process and its importance; intrinsic and extrinsic motivation; personality types and development; interests and attitudes; emotions, anxiety, stress, memory, and achievement motivation.
- **Theories of learning:** Trial and Error Theory, Conditioning Theory, Imitation Theory, and Insight Theory.
- **Social foundations of Physical Education and sports:** Physical Education and sports as social institutions; impact of sports and Physical Education on society.
- **Socialization through sports:** Role of sports in the home, institutions, and community; development of social values through sports.
- **Contribution of Physical Education and sports to national integration:** Role of sports in national unity and cultural inclusion; promotion of social harmony through sports.

Unit–3

Tests, Measurement, and Evaluation in Physical Education

- Meaning and definitions of tests and measurement; importance of testing and measurement in Physical Education.
- **Principles of measurement and evaluation:** Process and criteria of measurement and evaluation; types of evaluation.
- Methods of test selection; criteria for effective test selection; reliability and validity of tests; objectives and utility of tests.
- Classification and construction of tests; standardized and non-standardized tests; development of subject-specific tests; planning and administration of tests.
- **Physical fitness tests:** Strength tests, motor ability tests, cardiovascular endurance tests, general motor ability tests, and sports knowledge tests.
- **Major sports skill tests:** Badminton, Basketball, Hockey, Lawn Tennis, Football, and Volleyball.
- **Anthropometric measurements and physique:** Height, weight, skinfold thickness, limb length and girth, body composition, somatotypes, muscular build, and body fat percentage.

Unit–4

Anatomy and Physiology

- Introduction to Anatomy and Physiology: Meaning, definitions, and importance in Physical Education.

- Organs, tissues, and cells: Introduction and functions of organs; definition, structure, classification, and functions of tissues; definition, microscopic structure, organization, and functions of cells; essential characteristics of living organisms.
- Muscular system: Classification, types, and functions of muscles; structure and role of skeletal, smooth, and cardiac muscles.
- Skeletal system: Classification and functions of bones; joints, types and classification of joints; functions of joints and structure of synovial joints.
- Respiratory system: Structure and functions of respiratory organs; mechanism of respiration and gas exchange.
- Digestive system: Structure and functions of digestive organs; mechanism of digestion.
- Circulatory system: Structure and functions of the heart; cardiac cycle; blood circulation; components of blood and their functions.
- Endocrine glands: Introduction to major endocrine glands and their functions; hormones and their effects.
- Excretory system: Structure and functions of the kidneys; process of urine formation; structure and functions of the skin.

Unit–5

Mechanical Basis of Human Movement, Biomechanics, and Training Methods

Mechanical Basis of Human Movement and Performance

- General organization of the human body; body directions and planes and their influence on movement and sports performance.
- Application of fundamental mechanical principles in sports and Physical Education: Force and friction, mass and weight, pulling and pushing.
- Role of biomechanics in sports and Physical Education; introduction to biomechanics; contribution of biomechanics to performance enhancement and injury prevention.
- Concepts of axes and planes; center of gravity and line of gravity; structural classification of the human body.

Biomechanics and Training Methods

- Introduction to biomechanics: Definition, aims, objectives, importance, and brief history.
- Structural classification of muscles; major muscles and their roles; types of muscular contractions.
- Fundamental movements of major body parts; types of movement; Newton’s laws of motion; acceleration, velocity, and balance.

- Lever system: Types of levers and their mechanical advantages; concept of projectile motion.
- Principle of load and overload; significance of load and overload in training.

Training Methods

- Methods of developing strength (isometric and isotonic exercises).
- Methods of developing endurance (continuous method, interval method, and fartlek method).
- Methods of developing speed (acceleration runs and weight training); importance and principles of warming up and cooling down.

Unit–6
Organization and Administration in Physical Education

Management and Administration

- Meaning and definition of management and administration.
- Programme planning: Meaning, importance, stages, principles, and factors affecting programme planning.
- Finance and budgeting: Meaning of finance and budget; importance of budgeting; preparation of a good budget; sources of income and expenditure.

Office Management and Timetable

- Office management: Maintenance of records, stock register management, organization of meetings, and attendance management.
- Timetable management: Need, importance, and factors affecting timetable preparation.
- Command and class management: Types of commands and methods of class management.
- Classification of students and methods of classification.

Lesson Planning and Presentation

- Lesson planning: Types and importance of lesson plans.
- Presentation techniques: Personal preparation and technical preparation.

Organization of Competitions

- Types of competitions: Intra-school and inter-school competitions.
- Conduct of competitions; organizing committees; responsibilities before, during, and after competitions.

Facilities and Equipment

- Maintenance and care of facilities; indoor and outdoor facilities.

- Marking of playfields: Football, Volleyball, Basketball, Hockey, Badminton, Kabaddi, Kho-Kho, Cricket, Handball; marking of athletic tracks (400 m and 200 m), staggered relay zones, exchange zones, throwing sectors, and jumping areas.

Unit–7
Health Education, Rehabilitation, and Restoration

Introduction to Health Education

- Meaning and importance of health education; meaning and definitions of health; significance of health education.
- Dimensions and determinants of health; factors affecting physical, mental, social, and spiritual health.
- Positive health and wellness; healthy lifestyle; concept of wellness.
- Principles of health education and health awareness.

Personal Health and Hygiene

- Personal hygiene: Importance, types, and daily hygienic habits.
- Effects of smoking and alcohol consumption on health; harmful consequences and preventive measures.
- School health programmes; need for health services; health inspection and preventive measures.

Communicable Diseases and Environmental Problems

- Communicable diseases: Modes of transmission and preventive measures.
- Environmental problems and their impact on health; effects of air, water, noise, and soil pollution; environmental protection measures.

Balanced Diet and Nutrition

- Balanced diet: Components and functions of a balanced diet; factors affecting diet.
- Daily energy requirements; determination of daily energy needs; nutrition for sports and competitions.
- Body profiling: Measurement of height and weight; indicators of a healthy body.

Sports Injuries and Therapeutic Exercises

- Sports injuries: Classification and preventive measures.
- Therapeutic exercises: Active, passive, resistive, and stretching exercises; their benefits and applications.

First Aid

- Introduction to first aid; meaning and principles of first aid; types of first aid.
- Qualifications and duties of a first-aid provider; qualities of a first aider; role during emergencies.

Unit–8
Research Methods in Physical Education

- **Introduction to research:** Research methods in Physical Education; definition and concept of research; importance, scope, and types of research; nature of research (basic, applied, and action research); research areas in Physical Education (physical fitness, sports science, nutrition, psychology); types of research (descriptive, experimental, historical, and comparative).
- **Selection of research problems:** Identification, stages, suitability, significance, and approaches to problem-solving.
- **Major research methods:** Experimental method, survey method, case study method, comparative research; methods and tools of data collection; primary and secondary data sources; questionnaires, interviews, observation, and testing.
- **Data analysis and statistical techniques:** Objectives and importance of data analysis; statistical measures including mean, median, and mode; measures of dispersion such as standard deviation and quartile deviation.
- **Hypothesis and research report writing:** Meaning, types, and formulation of hypotheses; null and alternative hypotheses.
- **Research report writing:** Format and structure of research reports; stages of preparing an effective report; references and bibliography writing.