PHYSICAL EDUCATION

M.Phil/Ph.D. SYLLABUS

(ENTRANCE TEST)- 2020-21

SECTION-A
(Research Methodology)

1. Research in physical education- its importance and classification. Ethical issues in research.
   Methods of research- Descriptive, historical and experimental. Experimental research designs.
   Identification and formulation of research problem. Types of research hypotheses and their formulation. Hypotheses testing.
   Tools of research- Questionnaires, opinionnaires, interviews and observation. Sources and steps of literature search- library, research data bases, internet- search engines, online journals. Note taking and critical reading.
   Sampling Techniques- Probability and non probability.
   Data, its types and collecting measures.
   Normal probability curve and grading scales.
   Statistical processes, their importance and uses in research.
   Application of parametric and non parametric statistical techniques in research. Computer applications- statistical packages for data analyses- SPSS, e-mail, search engines and Microsoft office.
   Preparation of research proposal, report, abstract, paper for publication and paper for presentation.

2. Test, measurement and evaluation -their types and importance in physical education and sports. Principles and processes of evaluation in physical education. Criteria of selecting an appropriate test and administration of testing programme.
   Types of tests and construction of standard knowledge and skill tests.
   Tests for fitness- Physical fitness, motor fitness, motor ability and motor educability. Health related fitness tests.
   Test for fitness components- strength, endurance, speed, flexibility and coordinative abilities.
   Sports skill tests- Badminton, Basketball, Football, Hockey, Tennis, and Volleyball.
   Anthropometric Measurements- land marks and measurement of various body segments, height, sitting-height, weight, diameters, circumferences, skinfolds, body mass index, ponderal index.
   Somatotype and Posture evaluating techniques.
   Testing of physiological phenomenons- 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.

SECTION-B
(Subject Specific)

1. Physical education and adapted Physical education, their objectives
   Philosophies of education as applied to Physical education.
   Development of Physical education in Greece, Rome, Sweden, Russia, England,
   Denmark, Germany, USA, Australia and China.
   Growth and development of Physical education in India.
   Recreation- its principles, Characteristics and importance, Modern trends in recreation. Indoor and outdoor recreational programmes. Recreational programmes for various categories of people.
   Wellness-its importance, benefits and challenges. Development and maintenance of wellness.
   Teaching Aptitude- Nature, Objectives, Characteristics of teaching, Learner Characteristics and Teaching Methods.
   Social aspects of sports-sports as a socializing agency, social values, sports leadership, sports as cultural heritage and social aspects of competition.
   Ancient & Modern Olympics games, Asian and Commonwealth games.
   Structure and functions of international and national bodies controlling various groups and sports, prominent and awards in games and sports.

2. Exercise physiology its scope and importance in the field of physical education and sports.
   Cardio respiratory adaptations to long and short term physical activities.
   Muscle- its types, characteristics and functions. Microscopic structure of muscle fibre. Sliding filament theory of muscular contraction. Types of muscle fibres and sports performance. Muscular adaptations to exercise.
   Neuro-muscular junction and transmission of nerve impulse, kinesthetic Sense organs and neural control of motor skills.
   Bio-chemical aspects of exercise - Metabolism of food products. Aerobic and anaerobic systems during rest and exercise. Direct and indirect methods of measuring energy cost of exercise.
   Recovery process - Physiological aspects of fatigue. Restoration of energy stores. Recovery oxygen. Nutritional aspects of performance.
   Environmental influence on human physiology under exercise.
   Women in sports- trainability. Physiological gender differences and special problems of women athletes.
   Aging - Physiological consequences, life style management and healthful aging.
   Physiological responses of various therapeutic modalities and rehabilitation.
   Physiological aspects of various Ergogenic aids. Massage manipulations and their physiological responses.

3. Kinesiology and biomechanics. Modern trends in biomechanics. Planes and Axes of human body. Joints and their movements.
   Muscle attachments - Origin, insertion, action and leverage of the principal muscles used in sports.
   Motion: its laws and their application in sports. Projectile and principles of projections
   Linear and angular kinematics and kinetics.
   Friction, Spin, impact and elasticity.

   Air and water dynamics.
   Mechanical advantage and applications of Levers in sports.
   Posture and its deformities with their corrective exercises.
   Kinesiological, Muscular and mechanical analyses of fundamental movements.
   Mechanical analyses of major sports skills.

4. Sports psychology- its importance in the field of physical education and sports.
   Motivation in sports- types, theories and dynamics.
   Psychological factors affecting sports performance- Emotions, Anxiety, aggression, stress, self confidence, concentration , mental practice and goal setting.
   Personality- Theories of personality, measurement of personality.
   Group dynamics, Group cohesion and leadership in sports.
   Cognitive process- memory and thinking. Principles of Motor skill learning.
   Transfer of training and its types with its implication in sports.
   Long and short term psychological preparation for performance/ competition.
   Psychological skill training for activation and relaxation, Spectators and sports performance.

5. Development of teacher education for physical education in India. Comparative study of professional preparation in physical education of India with those of USA, Russia, Germany, Australia and UK.
   Professional and other courses of physical education in India. Role of Government agencies monitoring professional courses in physical education.
   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.
   Recent Government policies for promoting physical education and sports in India.
   Hierarchy of organizational set-up in physical education at schools, colleges and university level.
   Role of public & 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.
   Curriculum design and content- importance, selection and classification of subject matter with reference to age, sex and differently abled pupils. Integrated programme for boys and girls.
   Teaching aids - Time-table, Concepts, credit system for various subject course theory and practical, Impact of technology in physical education and sports.
   Curriculum evaluation: Concepts and purpose; procedure and appraisal.

6. Health- its objectives and spectrum. Health education, its importance and principles . Role of genetics and environment in achieving health. Health-related physical fitness.
   Community health programme- Health appraisal & health instructions. International and national health promoting government & private agencies.
   School Health programme and personal hygiene.
   Communicable diseases: causes, symptoms, prevention through other means and Immunization.
   Psychosomatic disorders/ sedentary life style diseases : causes, symptoms and prevention.
   Obesity related health problems. Body weight control and its significance on health. Role of exercise, dieting and combination of exercise & dieting on weight control.

   First-aid- objectives and principles. First-aid for Shock, poisoning, burns, drowning, bleeding, electric shock and common sports injuries.
   Pollution- Air, water, sound and radiation. Effects of pollution on health, Preventive and safety measures from pollution.
   Nutrition- Balanced diet and its components. Nutritional Deficiencies. Understanding of malnutrition and nutritional supplements.
   Effects of smoking, alcohol, & drugs on health; prevention and rehabilitation.

7. Sports training- its characteristics and principles. Training load, its features, principles and adaptation process. Means and methods of executing training load. Overload, its Causes, symptoms and remedial measures.
   Strength- its characteristics, types of strength, factors determining strength and strength development.
   Endurance- its characteristics, types of endurance, factors determining endurance and endurance development.
   Speed- its characteristics, types of Speed, factors determining Speed and speed development.
   Flexibility-its characteristics, types of flexibility, factors determining flexibility and flexibility development.
   Coordinative abilities- its characteristics, types of coordinative abilities, factors determining coordinative abilities and development of coordinative abilities.
   Technique and skill- its characteristics and importance. Different stages of technique development and technique training. Tactics and strategy.
   Planning- its importance and principles. Types of planning.
   Periodization- its importance, objectives and types of periodization. Concept of different periods - Preparatory, competition and transitional. Types of Competition.
   Talent identification- process and procedure.

8. Management- its principles and theories. Scope of management in physical education and sports. Guiding principles for organizing physical education & sports programmes in institutions.
   Personnel management- objectives and principles. Self-appraisal, communication skills and time management. Essential skills of administration.
   Financial management- objectives, purposes, principles and scope. Planning and preparation of budget. Mechanics of purchase and auditing.
   Supervision - objectives, principles and importance of 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. Management of records.
   Role of sports manager- interpersonal, informational and decision making. Managerial skills – technical, human and conceptual. Qualities and qualification of sports manager.
   Event management- its principles, planning, check list, rehearsal, itinerary, execution, reporting and follow-up procedures of an event.
   Public relation- principles of public relations in physical education and sports. Mass Media-communication and publicity, qualifications of Public relation officer.