

PHYSICAL EDUCATION

POST GRADUATE DEGREE STANDARD

PAPER-I

UNIT-I PRINCIPLES AND HISTORY OF PHYSICAL EDUCATION

Origin and development of ancient and modern Olympic games- Physical education in ancient Greece - Sparta -Athens - Physical Education in ancient Rome - Rajkumari Amrith Kaur - National Institute of sports- Sports authority of India - National Physical fitness Corps- National Physical efficiency Drive (NPED), National cadet corps (NCC), Auxiliary cadet Corps(ACC) Bharat Scouts and Guides (Boys and Girls) - Inter University sports Board - National and inter national tournament in various games-World cup in various games - Davis cup Wimbledon - National School Games Federation - India Olympic Association, National and State level association.

Meaning, definition, aim objective and scope of Physical Education, Physical Training, Physical Culture and Physical Education.

- Biological Foundation of Physical Education - Hereditary traits - Muscle tone athletic heart - Unsynchronised development - Reciprocal innervation - reflex arc - Vital capacity -

Sex difference, Somatotype, classification according to Sheldon and Kretchmer, infancy and adolescent Period- body mechanics -posture -

Theories of play gregarious instinct- leadership- National integration - Sociological Foundations of Physical Education.

UNIT-II ANATOMY AND PHYSIOLOGY

Classification of bones, muscles and joints, Factors maintaining integrity of the joint-effects of immobilization on tissues-Blood, Plasma and Cellular elements-RBC structure and function, WBC types and functional platelets - heart position and structure - Systole and diastole-Cardiac Cycle/circulation-/(Systemic, pulmonary and coronary) Blood pressure arteries, veins and capillaries/lymph and its function. Respiratory passage. Mechanism of respiration/External and internal respiration, nervous control of respiration, lung volumes - Structure of digestive system - Secretion and function of salivary glands, liver, gall bladder and pancreas secretion and functions of stomach, small intestine- part of the urinary system. Urine-normal contents, normal Urine formation with basic structure of nephron- Neuron, receptor, Synapse, Sensory and motor nerves, Spinal cord- Cerebrum- Motor and sensory areas-Cerebellum and co-ordination brief study of sympathetic and para sympathetic/nervous system.

UNIT - III SPORTS MANAGEMENT

Meaning, definition and concept of management- need and scope of sports management - level of management - Principles of management - Hierarchy/span of control and unity of command - meaning and importance of methods in Physical Education - Factors influencing methods - Presentation technique lesson plan- general and particular - Class management commands- Classification of Pupils - Need and importance of classification - age-height and weight Macloys classification- Competition and tournament - Fixtures- intramural and extramural Sports meet and play day festival-Incentives and award -Meaning of organisation and administration/guiding principles of/ organisation -Scheme of Physical Education programme in schools, Colleges, Universities, District, State and nationals-Organisation chart for school, College/ University, District, State and nation-Pre work and post work for organisation of conference - Clinic-workshop-Seminar in Physical Education Games budget-Sources of income-source of Expenditure- approved items of expenditure-rule for utilisation of games fund of for Physical Education pregame-budget preparation and planning- accounting- records and registers.

UNIT- IV SPORTS PSYCHOLOGY AND

SPORTS SOCIOLOGY

Meaning of Sports Psychology the nature of sports. Scope of sports Psychology, Relationship of sports Psychology with other sports sciences, Importance of sports Psychology for Physical Education- Relationship of intelligence to motor ability to learn motor skills athlete verses non athlete in intelligence motor and Physical characteristics of mentally retarded-Basic consideration in Motor learning performance of Factors affecting Motor learning-Physical and motor consideration body build-health and weight-Strength muscular endurance-Flexibility-balance-co-ordination - reaction time - movement time-response time and reflex time-kinesthesia-Meaning of motivation, need, drive-Types of motivation-Intrinsic & Extrinsic motivation-Technique of motivation-Meaning of Emotion-Type of Emotion -Effect of Emotion on performance-conflict -Frustration -Anxiety fear-Aggression-Stress- Determinations of Competitive behaviour-Precompetition-Competition and post Competition states-Selected Psycho regulative techniques for relaxation and activation.

Meaning and definition of sports -Sociology - Sport as a social phenomena - Sociology of sports - separate discipline, sports and socialization of the individual -Culture-sports and culture -Basic concepts of culture -Elements of culture-Function and culture-Relationship of sports with other elements of culture-Social planning and physical culture-work, free time and physical culture-physical culture as a requirement of social development-Development of socialistic production and physical culture, Social institutions, Economic, Political Religious Relationship of sports with other social institutions -Emergence and growth of commercial sports-effects of commercialization on sports. Status and incom of athletes in commercial sports-sports and solidarity-Political consequences of international sports events-Reasons for combining sports and religion-similarities and difference between sport and religion woman in sports-the sportswoman in our society-Participation patterns among women gender in equation issues-women sports in future-Place of game and sports in difference periods. (ancient middle and modern)

UNIT-V RULES OF GAMES AND SPORTS

Theory and officiating the following games and sports:-

Track and field, Kabaddi, Khokho, Basketball, Volleyball and Cricket, Handball, Hoickey, Soccer, Softball, Table tennis, Ball badminton and badminton.

Each game or sport to be dealt under the following heads history and development of game or sports-ground dimentions and markings; standards equipments. Rules and interpretation of rules, duties of officials-Systems of officiating-position, signals etc.

PAPER-II

UNIT-I

RESEARCH METHOD, STATISTICS,TEST MEASUREMENT AND EVALUATION

Definition of Research-Meaning, Need, Nature and Scope of Research in physical Education, classification of Research-Basic Research Applied Research-Action Research. Location of Research problem-Criteria for selection of a problem-Hypothesis and formation of Hypothesis-Research Proposal-Qualities of a good researchers.

Definition of Historical Research -Stops in Historical Research-sources of Historical Research-Primary Data-Secondary Data-Historical Criticism-Internal criticism -External Criticism.

Survey study-Case study-Normative study meaning of variables-Types of variables-Nature and Meaning of Experimental Research Planning for Experimental Research-Field Experimental Designs-Single Group Design-Reverse Group Design-Repeated Measure Design-static Group comparison Design-Equated Group Design-Factorial Design.

Style of writing Research Report-Mechanics of writing Research Report-Footnote and Bibliography writing Different method of sampling.

Statistics-meaning, Definition, Function, need and importance-uses, types of statistics, meaning of the terms-Population sample data, kinds of data, variables, discrete continuous parametric, Non-parametric-Statistics-Frequency table, meaning uses and construction of frequency table. Measures of central tendency-calculation of mean, median and mode.

Definition of measures of variability and their uses-Range Calculation of Range-Quantile Deviation-Mean Deviation-Standard Deviation from ungrouped and grouped data meaning of measurement and Evaluation-Nature and scope -Need and importance of evaluation in the field of physical education - Principles of evaluation-Criteria of Test selectison-factors affecting scientific Authenticity-Classification of tests-Standarrised and teacher made test (objective and subjective)-Construction of knowledge skill tests-Administration of testing programme its procedure and follow up.

Cardiavascular and Respiratory Function Tests:- Cooper's 12 minutes continous ran walk and modifications-12 minutes cycling test (Coopers)-Harvesed step test and modification (High School, andcollege level). Oregon Motor Fitness test-JCR Test-Canadian fitness test AAHPER Youth fitness test-

Indian Motor Fitness Test. Mecloy's General Motor Ability test-Methany Johnson test. Krausweber test and Muscular fitness Instrument for measuring. Strength Roger's Physical fitness Index and suggested changes in the PFI test-Volleyball-Brady Russel and Lange test-Basket ball Johnson test, Knox test-Soccer:- McDonald test and Johnson test, Badminton:- Miller Volley test Lockhand Mephersoin test field Hockey:- Dribbling and Goal Shooting test Tennis :- Broer-Miller Tennis test. Measures of posture-IOWA posture test (Cureton's) Anthropometric measurement-Girth measurement-Upperarm Forearm, Calf chest-width measurements-Biacronical chests, Illicrestal, Biepicondylar (Femur and Humerus) Height measurement-Static and sitting height-Somatotype-Scheldon's Technique..

UNIT-II KINESIOLOGY AND BIOMECHANICS:

Meaning, Nature and scope of the study of structural kinesiology-history and scientific foundation of human Axis, plane and their type-segment movements in relation to axis and planes. Types of bone-mechanical axis-Articulation structure and classification-functions-movements of skeleton, Units Centre of gravity-line of gravity planes-of the body and axes of motion, fundamental movements of the major segments of the body. Muscular attachment (Proximal,distal upper, Lower,Medial, Lateral, Peripheral and central attachment)-muscle classification based on joint structure and their role in total movement-Types of muscular action and body movements-nerve -muscular basis of human movements.

Familiarising with the structure and function of shoulder, hip, elbow, knee wrist and ankle joints. Origin and insertion of muscles-movements referring to physical exercise and basic skills in sports and games-pectoralise major and minor deltoid, trapezes, quadriceps, gastrocnemius, saratu anterior and posterior, biceps, triceps-rectus femoris, Sartorius, rectus abdominus. Human movement in relation to joints /bones and muscles locomotive skills-walking, running training for locomotive skills-body projection skills, stationary take off, moving take off. Throwing patterns, pushing patterns, striking patterns, performance in water buoyancy flats, locomotion in water.

Meaning and definition of Biomechanics-Role of Biomechanics in physical education and sports-basic terms-mechanic-sports biomechanics-Dynamic-Kinematies-Kineties-static-Plenes axes-centre of gravity, vectors and scalars. Meaning and Definition of motion-types of motions-linear motions-angular motion-circular motion-uniform motion-speed-velocity-acceleration-movementum basic laws of motion-principles related to Law of inertia-Law of acceleration- Law of counter for co-relationship of Linear and angular motion. Meaning and definition of force-units of force-effects of force-Sources of force-force components-force applied at an angle-pressure-friction-buoyance-spin-centripetal force-centrifugal force. Freely falling bodies-projecticles-equation of projecticles. Stability-Meaning-Definition factors influencing equilibrium-Guiding principles of stability State and dynamic stability. Meaning-work-Power-energy-Kinetic energy and potential energy-conservation of energy-elasticity-co efficient of elasticity-Impact -Law of conservation of linear nomentum-Rebound-Leverage-Classes of lever-practical applications. Fluid mechanics-Water resistance-Flotaing-specific gravity-Centre of buyoancy-Aerodynamics-Air Resistance form-Drag-the lift-The magnus effect. Analysis of moments -types of analysis-kinosiological analysis-Biomechanical analysis-Cinemetographic analysis-the analysis Methods of Analysis vishual and instument analysis of fundamental motor skills walking-Running-Throwing-catching-Pushing-lifting -Hitting-striking-licking-jumping-analysis of skills-Techniques of games-Basket ball-Cricket-Football-Hockey Volleyball athletics swimming and Gymnastics.

UNIT-III EXERCISE PHYSIOLOGY AND SPORTS MEDICINE

Structure of the skeletal muscle-muscle fibre-the contractile agent of a muscle fibre-red and white muscle-muscle spindle-blood supply to the muscles-the chemical composition of muscles-Muscular contraction-

effect of temperature and warming up-staircase phenomenon-the chemistry of muscular contraction. Basic structure of the nerve-reflex are Synapse motor unit-neuro-muscular junction-transmission of the nerve impulses. Metabolism-sources of ATP-Anaerobic metabolism-Aerobic metabolism of carbohydrates, Proteins and Fats. The aerobic and anaerobic systems during rest and exercise and oxygen deficit and oxygen debt. The recovery process after exercise. Internal and external respiration-pulmonary ventilation-minute ventilation-during exercise tidal & other lung volumes. Measurement of the volume of the Cardiac output-Cardiac output during exercise Circulating adjustment during exercise stroke volumes-effect of training on stroke volumes and heart. Diastolic and systolic blood pressure-blood pressure changes during exercise, Types of fatigue-Symptoms of fatigue-causes of fatigue-sites of fatigue. Effect of training on various systems of the body viz. muscular, Circulatory, respiratory and nervous systems. Sport-Harmful-beneficial-some common general symptoms-fever -cough-vomiting pain and inflammation-fainting-excessive sweating-muscle cramp. The body's immune system-specific infectious diseases childhood illness-measles chickenpox-whooping cough-Disorders of Respiratory tract-Disorder of the digestive system-Skin diseases-Mental disorders-Anxiety and worry-Sleep disturbances-Blood disorders -Anaemia-Composition of blood-overweight-obesity and fastings-Diet-Emergency need and energy balance-vitamins-minerals-ointment and liniment used in sports-Medication and performance-doping.

UNIT IV TRAINING METHOD AND COACHING:

Definitions of training-Sports-Coaching task-Skill-Techniques-tactics and strategies-Historical development of coaching schemes in India -Philosophy of coaching-Personal qualities and Technical qualification required for a coach. Planning and organisation of training-loading and Adaptation process-Forms of Adaptation-De-adaptation-Mal-adaptation and re-adaptation and Laws of Adaptation-Periodical cycle-Micro, Meso-Macrocycles-Principles of planning -Periodization and its types. Principles and Characteristics of training load-Load Adaptation process-condition for super compensation over load signs and symptoms of overload, remedial measures and methods of overcoming overload. Preseason training-competitive season training-off season training-Micro-Macro.,

Meso schedules of periodisation-pre-game-meal-specific nutrition to games/sports. Motor components - Balance flexibility-strength-Endurance-speed- Agility -Coordination National - International competition in the game of the choice of the student(Basket ball, Cricket, foot ball, Hockey, Volleyball,,Track and field). Sports performance evaluation-Scouting and recording methods of evaluating the techniques. Training Basic methods of conditioning-Calisthenics exercises-Weight training-Circuit training-Continuous running, slow and fast pace method-various i.e., pace method-fartlek training-internal training-resistance training-Pressure training -wind sprint. Definition of skill and technique-importance of skill and technique-method for improving skill and technique-method for improving skill and techniques-drills-lead up games.

Definition of tactics-individual and team tactics-defensive and offensive tactics-Strategy and its meaning Types of periodisation-aims and content of various periods(Preparatory, competition and transition short term plan and long term plan).

UNIT -V CURRICULUM DEVELOPMENT IN PHYSICAL EDUCATION

Definition and meaning of curriculum-Old and modern concepts.Definition and meaning of curriculum design-patterns of curriculum-Subject based-activity based and environment based patterns-factors that affect curriculum basic principles for planning curriculum-Design.

Major steps in curriculum development-formulating aims and objective selecting curriculum content- Criteria for curriculum content-Organisation and integration of content preparing instructional materials-

evaluation of curriculum. Introduction-materials-for curriculum activities - experiences-teaching method- curriculum design curriculum content-sources of curriculum materials-text books, journals, dictionaries, encyclopedia magazines etc. Physical education and other facilities-integration of physical education with Philosophy, Psychology, sociology, history, physical chemistry, statistics, anatomy and physiology, sports medicine, physiotherapy & Anthropology. Definition of research-curriculum research, objects of curriculum research, curriculum and basic research curriculum and applied research, curriculum and action research,historical study and curriculum, experimental research and curriculum, importance of curriculum research. Definition, meaning and concept of evaluation-Characteristics of evaluation-methods of evaluation, importance of evaluation-traditional evaluation.