

**DEPARTMENT OF PHYSICAL EDUCATION
KURUKSHETRA UNIVERSITY KURUKSHETRA
(Established by the State Legislature Act XII of 1956)
("A" Grade, NAAC Accredited)**

No.PE/12/ _____

Dated: _____

Ph. D Entrance Test, (Physical Education), Session -2012-2013.
First Paper

Maximum Marks: 100

Time: 1 Hours

Syllabus and instructions for paper Ist. and IInd. of the entrance test of Ph. D (Physical Education) for the session 2012-2013.

Note: The above paper will be set strictly accordingly to prescribed syllabi of Ph. D. Entrance Course.

Paper -I

Instructions regarding Model Test Paper of the Ph. D (Physical Education) Entrance Test of Paper-I

- (i) The question booklet will carry 50 questions in all.
- (ii) Each question has four options (1), (2), (3) and (4) out of which one is correct. The candidate is required to darken completely the correct option in the OMR Answer Sheet supplied separately.
- (iii) Each correct answer carries 2 marks.
- (iv) No negative marking
- (v) Rough work may be done in the question booklet.
- (vi) The question booklet along with the OMR answer sheet is to be handed over by the candidate to the invigilator at the end of the examination.

Paper-II

Time: 2 Hours

Maximum Marks: 100

Instructions regarding Model Test Paper of the Ph. D (Physical Education) Entrance Test of Paper-II

1. The question paper consists of two parts.
2. Part I consists of 8 questions of 12 marks each and the candidates are required to attempt any five questions. (5 X 12 = 60 marks)
3. Part II is compulsory. The candidates are required to attempt all the 8 questions of 5 marks each. (8 X 5=40 marks)

Prof. O. P. Gahalawat

Prof. M. S. Chauhan

Prof. (Mrs.) Usha Lohan (Chairperson)

Syllabus for Ph. D. Entrance Test Physical Education

Unit-I

Introduction to and definition, aim and objectives of physical education and other terms-health education and recreation. Philosophies of education as applied to physical education-Idealism, Naturalism, Realism, Pragmatism, existentialism, Humanism. Biological of Physical activity-benefit of exercise, growth and exercise, exercise and well being sex and age characteristics of adolescent, body types. Psychological basis of Physical education-Play and play theories, general principles of growth and development, Principles of Motor-Skill acquisitions transfer of training effects Sociological; basis of physical education-Socialization process, Social nature of men and physical activity, sports as cultural heritage of mankind, custom traditions and sport, competition and cooperation. Physical Education in ancient Greece, Rome, and contemporary Germany, Sweden Denmark and Russia. Olympic movement-Historical development of ancient and modern Olympic Games Physical education in India

Unit-II

Meaning of Research, Need, Importance and scope of Research in physical Education. Types of Research. Survey of Related Literature, Need for Library search, Library Sources, Preparation of Bibliography and Abstracts. Formulation and Development of Research Problem: Location of Research problem, Criteria in selecting the research Problem. Formulation of Hypothesis, Null and Alternate Hypothesis, Assumptions and Limitations, Delimitations. Historical Research, Scope of Historical Research in Physical Education, Historical evidence, Validity of Historical data. Philosophical Research: Brief introduction. Survey Studies: Places of survey Research, Tools of Survey Research. Questionnaire and Interviews, Case Studies: Definition of Case Studies, Importance of Case Studies, Characteristics of Case Studies. Experimental Research: Meaning, Scope and Nature, Control of Experimental factors. Experimental Designs. Research proposal and preparation of research report.

Unit-III

Definition of Statistics, importance of Statistics in Physical Education and Sports Research. Statistical Processes. Frequency Distribution: Steps of Frequency Table Construction. Measures of Central Tendency, Computation of Measures of Central Tendency. Computation of Percentiles and Quartiles from Grouped data. Measures of Variability: Computation of SD from Ungrouped and Grouped data. Definition and Principles of Normal curve. Properties of Normal Curve. Skewness, Kurtosis. Standard scales - Percentile scale, Z scale, T scale, 6 Sigma scale, Hull scale. Standard scores. Correlation: Magnitude of Correlation. Computation of Correlation from Product Moment and Rank Difference Method. Factors affecting Reliability. t – ratio. Type I and Type II errors. One Tailed and Two Tailed Tests. Types of Sampling. One - way Analysis of Variance with equal and unequal Sample size. L.S.D. and Scheffe's Test. Computer analysis in Physical Education and Sports.

Unit-IV

Definition of Terms - Conditioning, Training and Coaching, Aims, tasks and Characteristics of Sports Training, Principles of Sports Training Important features of Training load- Intensity, Density, Duration and frequency; Principles of Training load, Adaptation Process and Conditions of adaptation, Over load –Causes and Symptoms, tackling of over load. Strength – forms of strength, Characteristics of Strength, Principles of Strength Training, Strength Training means and Methods, Strength training for children and women. Form of endurance. Characteristics of Endurance training means and methods Speed: Forms of speed, Characteristics of speed, Training means and methods. Flexibility: forms of flexibility, Characteristics of flexibility, Basis of flexibility, Methods of development of flexibility. Coordinative Abilities – Characteristics of coordinative abilities, Importance of coordinative abilities, Classification of coordinative Training methods.

Definition of Skill, technique and technical Training, Characteristics of Technique, Phases of skill acquisition, Methods of Technique Training, Causes and correction of faults. Definition of tactics and strategy, Basic tactical Concepts – Offensive, Defensive and High Performance, Methods of Tactical Training, Control of Tactical Knowledge. Importance of planning, Principles of Planning, Systems of Planning, Periodization and its types, Contents for various periods of training. Importance of competitions, Competition frequency, Main and build up competitions, Direct preparation for an important competition.

Unit-V

Meaning of statistics. Need and importance of statistics in Physical Education, Meaning of “Data”, Methods of organizing Data through Frequency Distribution. Meaning of the Measures of Central Tendency, Computation of Measures of Central Tendency i.e. Mean, Median and Mode. Meaning of Test, Evaluation and Measurement. Importance of test in Physical education and sports. Criteria for test selection - a) Technical Standards b) Practical Standards. Administration of Test –a) Advance Preparations b) Duties During Testing c) Duties after testing. Meaning of Variability, Computation of Measures of variability: Range, Quartile – Deviation, Average Deviation and Standard Deviation. Meaning of term Percentile, Computation of Percentile & Quartiles. Meaning of Percentile Rank, Computation of Percentile Rank. Meaning of Motor Ability, Test of Motor Ability – a) Barrow Motor Ability test b) Scott Motor Ability Test. Test of Fitness and Endurance – a) AAHPER Youth Fitness Test b) Harvard Step Test. Meaning of Normal Probability Curve, characteristics and properties of Normal Curve. Application of N.P.C, Meaning of Skewness and kurtosis. Calculation of various combinations of Heads and Tails. Meaning and Types of Linear Correlation. Computation of Correlation Coefficient with Product Movement Method and Rank Difference Method. Test of specific sports skill - Badminton - French Short Serve and Clear Test. Basket Ball – Johnson Basketball Test. Hockey – Schmithals-French Test in Field Hockey. Soccer - Warner Test for Soccer skills. Meaning and advantage of Graphical Representation of Data. Principle of Graphical Representation of Data. Histogram, Frequency Polygon, Cumulative-Frequency Graph, Bar-Diagram and Pie Diagram. Meaning of two –tailed and one tailed test of significance, computing significance of difference between two means with t – Test (independent samples). Meaning of Psychomotor Test. Meredith Physical Growth Records and Iowa Posture Test. Broer – Miller Forehand and Backhand Drive test for Tennis skills. Petry Volleyball Serve Test.

Unit-VI

Nature and objectives of Professional Preparation in Physical education and sports: - Introduction, nature, aims and objectives of physical education professional preparation programme. Historical Review of Professional Preparation in India.

Introduction, meaning and purpose of Graduate Level Professional Preparation. Curriculum of Physical Education Professional Preparation Regarding Laboratory experiences, Field Experiences and Teaching Practices. Facilities and Special Resources for Library, Laboratory and Research Regarding Graduate Level Professional Preparation. Introduction, meaning, importance and purpose of Post- graduate level professional preparation. Admission procedure for post graduate professionals. Recruitment for Post-graduate physical Education personnel. Area of Specialization and Research Requirement during and after Professional Preparation. Special Qualifications of Teaching Staff at Post-graduate Level. Introduction to curriculum, meaning and definitions of curriculum, importance of curriculum planning, Steps in curriculum planning, Characteristics of curriculum evaluation programme. Basic principles of curriculum design and planning, factors influencing the physical education curriculum design.

Selecting material for instruction. Classification of activities in Physical Education. Suitability of activities for different age groups and sexes. Cultural influence in the choice of activities. Flexibility of programme material. Committee recommendations – NCERT, CBSE, UGC recommendations on curriculum for school and colleges. Curriculum followed in colleges of Physical education B.P.Ed., B.P.E., M.P.E. and M. Phil.

Unit-VII

Meaning, nature and scope of sport psychology, Importance of sport psychology for physical educators and Coaches. Meaning of cognition, Characteristics of cognitive process in sports, Role of sensation and perception, Thinking, imagination and memory in physical activities. Meaning of attention, Dimension of attention, Strategies to develop attention. Motor Learning - Meaning of motor learning, factors affecting motor learning motor development in various periods of childhood and adolescence. Psychological aspects of action regulation, Meaning of action regulation, Importance, psychological characteristics of physical activities, Structure of action programme, action programme in different games and sports. Meaning of Personality, Personality traits of sports persons, Relationship personality to sport performance, personality differences among various sports groups.

Meaning of motives, needs and drives. Role of motives, attitude and interest in physical activities. Meaning and types of emotions. Influence of emotions (Success and failure) on level of aspiration and achievement. Anxiety, fear, frustration, conflict and its effect on sports performance. Psychological aspects of Competition, Definition of competition, Determinants of competitive behavior psychological characteristics of pre – competition, competition and post competition, selected psycho regulative techniques for relaxation and activation. Psychological aspects of long term and short term preparation for competition, Psychological care of injured sports person. Typical responses to injuries, prevention and coping techniques. Methods of Investigations in sports psychology, various methods used in sports psychology.

Unit-VIII

Definition of Physiology and Exercise Physiology. Importance and Role of Exercise Physiology in the field of Physical Education and Sports. Structure and function of Voluntary, Involuntary and cardiac muscles, Chemical Composition of skeletal muscle, muscle fiber types (Red and White muscle), Properties of muscles. Fuel for muscular work (ATP), Energy for muscular contraction. Heat production and thermodynamics of muscle contraction. Aerobic and anaerobic muscular activity. Muscle Contraction, Neuro-muscular junction. Proprioception and Kinesthesia. Effect of exercise and training on – (i) Heart and circulatory System. (ii) Respiratory system. (iii) Muscular System.

Oxygen debt, forced expiratory volume, breathing capacity, Recovery rate, Blood Supply to Skeletal muscle and regulation of blood flow during exercise, Fatigue- its meaning and concept. Basic Concept of balanced diet, appropriate diet before, during and after athletic performance, brief introduction about the effect of alcohol, drugs and smoking on athletic performance. Work capacity under different environmental conditions: Hot, humid, cold, and high altitude. Definition of Obesity, measurement of body fat by various methods (under water weight and skin fold measurement) Body weight control.

Unit-IX

Meaning of Biomechanics, Biomechanics in physical Education, Terminology of the movements around a joint. Movement Analysis: definition of Kinesiological analysis, Mechanical analysis and Biomechanical analysis. Linear kinematics: Distance and Displacement, speed and velocity, acceleration, Uniform Motion. Properties of force - magnitude, direction, point of application, line of application, internal and external force, muscular force. Linear kinetics – inertia, mass, weight, power, Newton's first law of motion, Newton's second law of motion, Newton's third law of motion. Law of conservation momentum Stability and equilibrium types of stability, principles of stability. Factors affecting stability, conditions for static and dynamic stability Angular kinetics: Centripetal and centrifugal force.

The Lever system: introduction of lever, functions of lever, classification of lever. Fluid Mechanics: static consideration: buoyancy and flotation, dynamic consideration: resistance and propulsion, drag force and lift force. Magnus effect, spin and its effects. Frictional force: starting and stopping friction, sliding friction, rolling friction. Freely falling Bodies (Projectile), vertical projection, horizontal projection, diagonal projection.

Unit- X

Concept of Sports Medicine, Its aims and objectives, Need and scope of sports medicine in Physical Education. Low back problems & their management, stretching and strengthening exercises for low back problems, Rehabilitation in sports medical problems, Common old age problems. Sports massage- before during and after competition. Cryotherapy, cryokinetics and cold spray, Hydro-collateral packs (Hot & Cold), Hydrotherapy (Contrast Bath and WhirlPool), Paraffin bath, Infrared & ultraviolet rays, Diathermy, Ultrasound, Electric muscle stimulation. Soft tissue and muscular - skeletal injuries, Tissue response to injuries, Stress related injuries, Injuries of head and face, Visceral injuries. Principles of injuries prevention, Principles of diagnosis, Principles of treatment.

Doping – its use and misuse.

