

बरकतउल्ला विश्वविद्यालय, भोपाल



शारीरिक शिक्षा विषय में

विद्या वारिधि (पीएच.डी.)

उपाधि हेतु प्रवेश-परीक्षा

पाठ्यक्रम

Ph.D. Entrance Examination Syllabus

प्रस्तावित पाठ्यक्रम विवरण

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Part - A
Research Process in Physical Education

UNIT- I INTRODUCTION TO RESEARCH

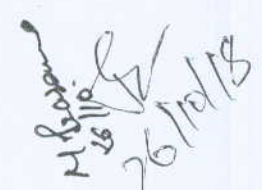
- 1.1 Meaning, need and nature
- 1.2 Types of research: Basic (fundamental). Applied and Action research
- 1.3 Identifying a research problem
- 1.4 Criteria in selecting a research problem
- 1.5 Stating the research problem
- 1.6 formulating, presenting and listing hypothesis
- 1.7 Delimitation and limitation of a problem
- 1.8 Note worthy contribution.
 - Reason for surveying related literature
 - Major literature resources
 - Documentation over-view
 - Library sources
 - Research reviews
 - Card catalogue indices - physical education indices
 - Abstracting material

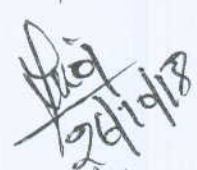
UNIT-II METHODS OF RESEARCH

- 2.1 Historical research
 - Meaning, nature and scope of historical research
 - Sources of historical materials (primary and secondary)
 - Evaluation of historical material - internal and external criticism - general principles of criticism
 - Historical hypothesis
 - Pitfalls in historical research
- 2.2 Philosophical Research
 - Need, nature and techniques of thinking process
 - Methods of philosophy
 - Analyzing philosophic research problem

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- Inductive and deductive reasoning

2.3 Survey and case study

- Meaning need and scope of survey and case study in physical education
- Types of survey
- Survey techniques - by questionnaire, interviews, case study
- Qualitative and quantitative research data
- Procedure for developing a questionnaire, a checklist, a schedule, a score card

2.4 Experimental Research

Scientific method and experimental research

Characteristics of experimental method

Experimental control

Experimental design

- Single group design
- Repeated measure design
- Static group comparison
- Random groups design
- Post-test only random group design
- Related groups design.
- Rotation group design
- Factorial design

UNIT -III AREAS OF RESEARCH

- 3.1 Research in exercise and sport physiology
- 3.2 Motor learning and motor control
- 3.3 Psychological studies
- 3.4 Bio mechanical research
- 3.5 Growth and development research
- 3.6 Formulating and submitting research proposal
- 3.7 Organization of thesis report
- 3.8 Technical aspects of writing research report

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- 3.9 Use of illustrative material
- 3.10 Considerations in writing report and abstract

UNIT-IV Need of Statistics and Data Analysis in Physical Education Research

- 4.1 Meaning need and importance of statistics in Physical Education Research.
- 4.2 Data and Characteristics of Data
 - Raw scores
 - Single scores
 - Attribute and variable
 - Types of data
 - Population and sample
 - Parameters and statistics
 - Frequency distribution
 - Discrete and continuous class intervals
 - Measures of central tendency
 - Measures of variability
- 4.3 Uses and application of non-parametric statistic
 - Computation of chi-square, rank order correlation and tetrachoric correlation

UNIT-V RELATIONSHIP AND COMPARATIVE STATISTICS

- 5.1 Principles of relationship
- 5.2 Coefficient of correlation
- 5.3 Product moment correlation
- 5.4 t-ratio - independent and paired
- 5.5 ANOVA - one way and two way
- 5.6 Meaning and principles of normal curve
- 5.7 Binominal expansion and properties of normal curve
- 5.8 Comparison of various scales

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PART-B

Physical Education and Sports Sciences

UNIT-I FUNDAMENTALS OF SPORT SOCIOLOGY

INTRODUCTION TO SPORT SOCIOLOGY : Meaning and concept of sport sociology. Importance of its study. Current status of sport sociology in India and abroad. Trends in sport sociology. Theories in sociology. Theories about sports and society (structured and functionalism; Critical, conflict, gender and interactionism theories). A comparative analysis of sociological theories in sports.

SOCIETY AND CULTURE: Definition and concept of society. Sports in human societies (ancient, feudal, capitalistic and socialistic) Sport as a part of social, structural and functional system. Sociological differences in ancient and modern sports. Meaning and concept of culture-sub-culture (Material and immaterial). Sport as a cultural phenomenon. Cultural symbols in sport.

STRATIFICATION AND SOCIALIZATION: Definition of stratification (classes, caste, age, gender in sports). Stratification and social mobility. Stratification and popularity of sport. Theories of socialization and sport. Facilitation and debilitation of sport socialization in genders. Desocialization from sport.

SPORT AND GENDER: Definition and theories of gender. Gender disparity and discrimination, and equity. Gender involvement in sports and masculinity. Deviance & aggregation in players. Spectator, fans and violence. Influence of spectators in dynamics of sports

COMMUNICATION AND RESEARCH METHODOLOGY: Mass communication and its implication in sports. Commercialization in sports. Amateurism versus professionalism. Recent social research methodologies (phenomenology, Hermeneutics, semiotics). Qualitative and quantitative research. Participant observation and interview method in research. Impact of privatization and globalization on sports.

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UNIT-II FUNDAMENTALS OF SPORT PSYCHOLOGY

COURSE OBJECTIVE: Provide concrete understanding of techniques for overall behavioral development of an individual so that the physical help in solving the problems of an individual.

INTRODUCTION TO SPORT PSYCHOLOGY: Meaning and scope of sport psychology. Divisions of sport psychology. Place of sports psychology in sports sciences hierarchy. Importance of sport psychology.

SENSORY PERCEPTUAL PROCESS: Meaning, mechanism and stages of sensory perceptual process. Classification of senses and sensory perceptual process. Factors in perception. Implication of sensory-perceptual process in exercise and sport

MOTOR DEVELOPMENT AND LEARNING: Understanding motor development and motor learning. Motor development and learning in infants and children. Factors affecting motor development and motor learning.

PSYCHOLOGICAL SKILLS AND THEIR INFLUENCE ON SPORTS PERFORMANCE : Attention, Concentration, Confidence, Imagery.

PERSONALITY: Concept and definition of personality, Modern perspective, trait, humanistic, social cognitive and biological theories). Dynamics of personality in activity and sport

ANXIETY IN SPORT: Concept, definition and types of anxiety. Anxiety and arousal. Effect of anxiety on physical performance.

MOTIVATION IN ACTIVITY AND SPORT: Concept, definition and types of motivation. Theories of motivation (drive, need and instinct theories) Motivation in activity and sports.

PSYCHOLOGICAL PREPARATION AND COMPETITION: Phenomenon of competition sport Psychological preparation for competition.

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SOCIO-PSYCHOLOGICAL ASPECTS OF ACTIVITY AND SPORT

SOCIO-CULTURE FACTORS AFFECTING PERFORMANCE: Social ethics and sport, Attitude towards activity and sport, Team (group) cohesion.

SPECTATORS AND PERFORMANCE: Types of spectators-crowd, fans, Facilitation and debilitating effects of spectators on performance.

UNIT- III - FUNDAMENTALS OF SPORT BIO-MECHANICS

THE STUDY AND ANALYSIS OF HUMAN MOVEMENT: Kinesiology and Biomechanics: Areas of study, Approaches for studying movement, Importance of biomechanics in Physical Education and Sports, Research in and out of the Laboratory.

INTRODUCTION TO BIOMECHANICS INSTRUMENTATION: Overview of instrumentation and its uses, Clocks and times, Stroboscope, Cinematography and computer assisted analysis, Videography and computer assisted analysis, Force measuring instrumentation, Accelerometry, Elector goniometry, Electromyography, Using micro computers for collecting and analyzing data.

LOOKING AT MOVEMENT: SOME MECHANICAL CONCEPTS: Types of motion, Distance and Displacement, Speed, Velocity and uniform acceleration, Acceleration and uniform acceleration, Force and momentum, Pressure, Mass and weight, Gravity, Center of gravity, Work, Power, Energy

Forces and Movement: Forces acting on a system, Reaction forces, Friction force, Centripetal and centripetal forces, Elastic force, Internal and external forces, Motive and Resistive forces, Force diagrams and Vectors.

Torque and moment of inertia: The effect of two or more torques on a system, Vector Composition of torque, Torque and the body's center of gravity location.

Other Kinetics: Lever, types of levers and their mechanical advantage and disadvantage with special reference to physical education and sports application.

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Friction, types of friction and their mechanical advantage and disadvantage with special reference to physical education and sports application.

BODY BALANCE AND STABILITY CONTROL: Balance, Equilibrium and stability, Controlling balance in static positions, Controlling balance during movement.

NEWTONS LAWS OF MOTION: Law of Inertia (Linear Motion), Law of moment of Inertia (Angular Motion), Law of Momentum (Linear Motion), Law of Angular Momentum (Angular Motion), Law of Action and Reaction (Linear Motion), Law of Action and Reaction (Angular Motion)

OBSERVING AND ANALYZING PERFORMANCE: The Nature of skills, Overall performance objective of skill, The analysis process.

Projectile- Related Activities: Properties of motion related to projecting for vertical distance, Projecting for vertical distance with a horizontal component, Projecting for horizontal distance, Projecting for accuracy, Principles derived from Projectile Motion.

FLUID FORCES: Fluid drag force, Fluid lift force.

Application of Arrangement in Sport: Effective of drag on the body and objects in sport, Effects of lift in sport, Lift force produced by spin: The Magnus effect.

Application of Hydrodynamics in Swimming: Buoyancy & flotation, Resistive forces in swimming skills, Propulsive forces in swimming skills, Swimming speed & efficiency.

STRUCTURE OF MOTOR ACTION: Structure of cyclic & aperiodic motor action and movement combination, Functional relationship of different phases of motor action, Qualities of Motor Movements, Movement rhythm, Movement coupling, Movement flow, Movement precision, Movement amplitude, Biomechanical principles, Principles of initial force, Principles of optimum path of acceleration, Principles of conservation of momentum, Principles of Action and Reaction.

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UNIT-IV FUNDAMENTALS OF EXERCISE PHYSIOLOGY

COURSE OBJECTIVES: This course provides an introduction to the fundamentals of exercise physiology. Emphasis is placed on physiology of muscle action, training for fitness and performance, nutrition and body composition aspects, health disorder and physical activity and fundamentals of exercise prescription and sports fitness testing.

COURSE OBJECTIVES:

1. Becoming familiar with the mechanism that explains the physiology of muscle action.
2. Examining the significance of physical activity and training for fitness and health promotion.
3. Understanding the fundamentals of nutrition and body composition for fitness and performance.
4. Role of physical activity in prevention and treatment of health disorders.

PHYSIOLOGY OF MUSCLE ACTION

Neuromuscular Concepts Of Muscle Action: Structure and function of Skeletal muscle, Contractile mechanism. Neural transmission and Motor response, Muscular adaptation to training,

Metabolic and Hormonal Control: Energy systems during rest and exercise, Measuring energy expenditure, Nature of hormone action, Metabolic adaptation to training.

EXERCISE AND TRAINING FOR FITNESS AND PERFORMANCE

Physical Activity and Health and Fitness: Role of physical activity in disease prevention, Behavior supporting fitness and health, Elements of total fitness (wellness)

Training for Sport and Fitness: Principles of Training, Overtraining, under training/ optimum training, Benefits of resistance training, Adaptation to aerobic and anaerobic training.

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- 1.3 Functions of sports management
- 1.4 Profile of a successful administrator/manager

FACILITIES AND FINANCE MANAGEMENT

- 2.1 Planning and development of facilities
- 2.2 Developing multi purpose sports facilities
- 2.3 Management of safety measures
- 2.4 Fundraising, accounting and budgeting

LEADERSHIP

- 3.1 Leadership types and traits of a successful leader
- 3.2 Time management
- 3.3 Managing meetings
- 3.4 Personnel management and voluntary management

SPECIAL SERVICES

- 1.1 Types of sports events
- 1.2 Formation of committees
- 1.3 Draw of fixtures, schedules and ceremonies
- 1.4 Reporting and evaluation

OFFICE MANAGEMENT

- 1.1 Meaning and definition of office management
- 1.2 Elements and functions of office management
- 1.3 Layout of physical education department
- 1.4 office correspondence

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