Pre-Ph.D. Course 2023
Subject: Physical Education
Paper- I Research Methodology

Subject: Common for all faculties		
Course Code	**Course Title: Paper-I** Research Methodology	Theory

Course Objectives: The main objective of this paper is to
1. Identify and discuss the role and importance of research.
2. Identify and discuss the issues and concepts salient to the research process.
3. Identify and discuss the complex issues inherent in selecting a research problem, selecting an appropriate research design, and implementing a research project.
4. Identify and discuss the concepts and procedures of sampling, data collection, analysis and reporting.

Course Outcomes: At the end of this course, the students should be able to:
CO1. Understand some basic concepts of research and its methodologies.
CO2. Explain key research concepts and issues read, comprehend, and explain research articles in their academic discipline.
CO3. Select and define appropriate research problem and parameters.
CO4. Organize and conduct research (advanced project) in a more appropriate manner.
CO5. Write a research report and thesis.
CO6. Write a research proposal (grants).

Credits: 4	**Core Compulsory**
Max. Marks: 100	**Min. Pass Marks:55**

Total No. of Lectures-Tutorial (in hours per week): L-T: 4-1

Unit	Topics	No. of Lectures 60
Unit 1	Perception & Definition of Research, Objectives & Motivations of Research, Importance of Research, Types of Research, Research Methods versus Methodology, Process of Research; Review of Literature, Formulation of the Research Problem, Sources and Identification of a Research Problem, Status of the Research Problem, Formulation of Hypothesis, Research Design,	12
Unit 2	Outlines of Synopsis; Project Proposal, Project Report Writing; Research Paper Writing; Components of Research Reports; Thesis Writing: Outlines of Thesis, Reference citing, Formats of Writing References, Bibliography; Plagiarism	12
Unit 3	Intellectual Property (IP), Intellectual Property Rights (IPR), Intellectual Property Law, Different fields of Intellectual Property Rights, Patents, Publication Ethics: Definitions importance Conflicts of Interest, Publication Misconduct Definition, Concept, Problems that lead to Unethical Behavior and vice versa, Types Identification of publication misconduct, Complaints and Appeals; Violation of publication ethics, Authorship and Contributorship; Predatory Publishers and Journals	12
Unit 4	Web Browsers, Search Engines, MS Word: Handling Graphs, Tables and Charts, Formatting in MS-Word, MS Power Point: Creating Slide Show, Screen Layout and Views, Applying Design Template, MS Excel: Features, Formulas and Functions.	12
Unit 5	Subject Classification Index, Citation, Citation Index, Impact Factor, hindex, i-10index, INFLIBNET, Introduction to Peer Reviewed and Open Access Journals, e-Journals, e-Library, Research Databases, Institute for Scientific Information (ISI) & Journal Citation Reports, Science Citation Index (SCI), Social Sciences Citation Index (SSCI), Arts and Humanities Citation Index (AHCI), Databases: UGC care list,Web of Science (WoS), Scopus.	12

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

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Pre-Ph.D. Course 2023

Paper-II- Research Tools in Physical Education

Subject: Physical Education		
Course Code	Course Title: Paper-II- Research Tools in Physical Education	Theory

Course Objectives: The main objective of this paper is to

1. Identify and discuss the role and importance of research tool.
2. Identify and discuss the issues and concepts salient to the research tool development process.
3. Identify and discuss the complex issues inherent in selecting the appropriate research tool.
4. Identify and discuss the concepts and procedures of research tool development.

Course Outcomes: At the end of this course, the students should be able to:

- CO1 Describe meaning and need of research tools.
- CO2 Understand various types of research tools.
- CO3 Explain principles of tool construction.
- CO4 Select the appropriate type of research tools for their respective study.
- CO5 Develop competency in writing the items for research tool.
- CO6 Edit the items of the research tool.
- CO7 Standardize the research tool.
- CO8 Prepare the manual for research tool.

Credits: 4	Core Compulsory
Max. Marks: 100	Min. Pass Marks: 55

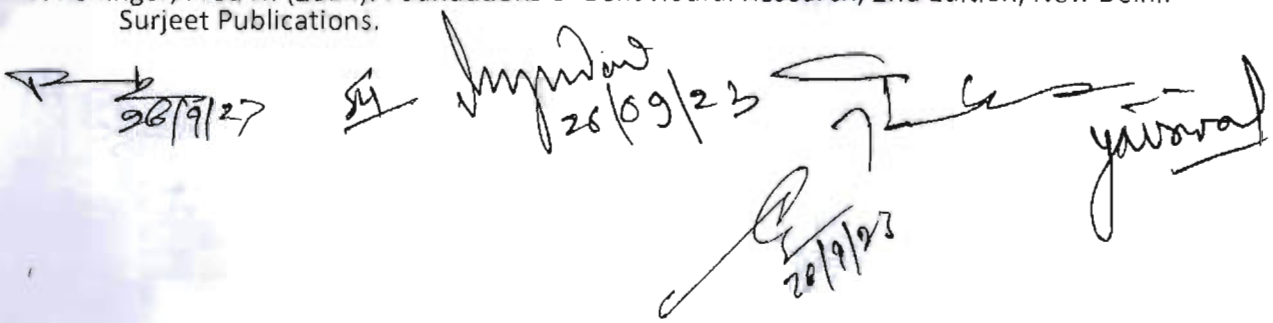
Total No. of Lectures-Tutorial (in hours per week): L-T: 4-1

Unit	Topics	No. of Lectures 60
Unit 1	☐ Meaning of Research tools, Nature, Characteristics of good research tools ☐ Essay type and different forms of objective type test items ☐ Ethics Integrity & Plagiarism :Introduction- definition, nature and scope & concept, ☐ Scientific Conduct: Ethics with respect to science and research , Intellectual and research integrity, ☐ Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP), Redundant misrepresentation of data	12
Unit 2	☐ Basis of classifying research tools ☐ Different types of tools; their merits and demerits ☐ Types of tools: Tests, Inventories, Questionnaires, Schedules, Checklists, Rating Scales, Questionnaires ☐ Their nature, characteristics and importance	12
Unit 3	☐ Reliability and Validity, their meaning ☐ Different methods of establishing reliability and validity ☐ Factors affecting Reliability and Validity ☐ Sensitivity to instructional effects (for mastery tests) ☐ Finalization of items	12
Unit 4	Significance and application of parametric and nonparametric tests in research. Measures of central tendency and Variability and their uses. Normal probability curve	12
Unit 5	Reliability of statistics and test of significance. Correlation and regression techniques. Scaling techniques and criteria for selecting appropriate statistical test of analysis. Issues related to interpretation of quantitative and qualitative research findings.	12

Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.

Suggested Readings:

1. Garrett, H.E. (1981). Statistics in Psychology and Education (Tenth Indian Reprint),Vails, Feffer & Simmons Ltd.
2. Kaul, L. (2011). Methodology of Educational Research, Vikas Publishing House Pvt. Ltd., Noida
3. Best, J. W. and Kahn, J. (1997) Research in Education. (7th ed.) New Delhi: Prentice - Hall of India Ltd.
4. Ansari, M.S. (2007). Essentials of Measurement and Evaluation, International Publishing House, Meerut
5. Cohen, Louis, Manion, Lawrence and Morrison, Keith (2013). Research Methods in Education, 7th Special Indian Edition, Oxon: Routledge.
6. Creswell, John W. (2012). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research, 4th Edition, New Jersey: Pearson Prentice Hall Inc.
7. Kerlinger, Fred N. (2014). Foundations of Behavioural Research, 2nd Edition, New Delhi: Surjeet Publications.



Pre-Ph.D. Course 2023

Paper-III- Areas of Research in Physical Education

Subject: Physical Education		
Course Code	Course Title: **Paper-III- Areas of Research in Physical Education**	Theory

Course Objectives: The main objective of this paper is to

1. Identify and discuss the role and importance of Physical Education research.
2. Identify and discuss the issues and concepts salient to the Physical Education research process.
3. Identify and discuss the complex issues inherent in selecting a Physical Education research problem, selecting an appropriate research design, and implementing a research project.
4. Identify and discuss the concepts and procedures of sampling, data collection, analysis and reporting.

Course Outcomes: At the end of this course, the students should be able to:

CO1. Understand some basic concepts of Physical Education .

CO2. Explain areas of Physical Education concepts and issues read, comprehend, and explain Physical Education articles in their academic discipline.

CO3. Select and define appropriate Physical Education research problem and parameters.

CO4. Organize and conduct Physical Education research (advanced project) in a more appropriate manner.

Credits: 4	Core Compulsory
Max. Marks: 100	Min. Pass Marks: 55

Total No. of Lectures-Tutorial (in hours per week): L-T: 4-1

Unit	Topics	No. of Lectures 60
Unit 1	**Test, Measurement and Evaluation in Research:** Data and its types, Methods of data collection (quantitative and qualitative). Population and sampling techniques. Classification of test (Standardized and teacher made tests).Construction of test and its Standardization. Criteria of test Selection. Tests for general motor ability and Sports Skills.	12
Unit 2	**Exercise Physiology:** Physiology and physical training, Exercise Physiology, Physiological changes, De-training, retraining and maintenance, Types and structure of muscle fibres and theory, Body size and Body composition, Physiology and altitude training, Physiology of female in sports, Physiological changes in aging, Ergogenic aids, Energy sources and cost of exercises, Training and Recovery, Acclimatization.	12
Unit 3	**Sports Psychology:** Psychological Principles and Sports, Methods in Sports Psychology, Cognitive Processes, Motor learning, Motivation, Personality traits of elite athletes, Emotions and Sports performance, Prestart states, Anxiety, Fear, Frustration, Aggression, Conflict and Sports Performance, Psycho-regulatory techniques, Audience and Sports.	12
Unit 4	**Sports Biomechanics:** Sports Biomechanics: Kinesiology/ Biomechanics/ Mechanics/ Sports Principles, Newton's Law, Levers, Force, Friction, Air and water Resistance, Biomechanical Analysis, Sports Performance Analysis, Analysis of Motion, Kinematics Analysis, Projectile-same and different surfaces.	12

Unit 5	**Sports Training & sports Management** Sports Training, Coaching and Conditioning, Training load, Motor components, Technique and Tactics training, Periodisation, Planning. Sports Management, Administration and Principle of Management, Management and Leadership, Organization, Type of Organization, Planning in Sports and Physical Education based Programme, Personal Management, Construction and management of play fields, Purchase procedure, Public relations, Budget Making and Finance.	12
Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.		

Books Recommended:

- Hoffman S.J. Introduction to Kinesiology (Human Kinesiology publication In.2005.
- Steven Roy, & Richard Irvin. (1983). Sports Medicine. New Jersery: Prentice hall.
- Thomas. (2001). Manual of structural Kinesiology, New York: Mc Graw Hill.
- Uppal A.K. Lawrence Mamta MP Kinesiology(Friends Publication India 2004)
- Uppal, A (2004), Kinesiology in Physical Education and Exercise Science, Delhi Friends publications.
- Williams M (1982) Biomechanics of Human Motion, Philadelphia; Saunders Co.
- S.Dhananjoy (1998). Biomecanics and Knesiology of human motion (Khel Sahitya Kendra, New Delhi).
- Bill. K. (2009) *Sport Management*. Learning Matters Ltd., Exeter, United Kingdom.
- Hernandez, R.A. (2002) *Managing Sport organizations*. Human Kinetics, Champaign, United States.
- Hoye, R. & et.al. (2006) Sport Management Principles and Applications. Elsevier, Oxford, United Kingdom.
- Pedersen, P. M. & et.al. (2011) *Contemporary Sport Management*. 4th Edition. Human Kinetics, Champaign, United States.
- Authors Guide (2013) National Library of Educational and Psychological Test (NLEPT)
- Catalogue of Tests, New Delhi: National Council of Educational Research and Training Publication.
- Authors Guide (2013) National Library of Educational and Psychological Test (NLEPT)
- Catalogue of Test, New Delhi: National Council of Educational Research and Training Publication.
- Jain. (2002), Sports Sociology, Heal Sahety Kendre Publishers.
- Miroslaw Vauks & Bryant Cratty (1999). Psychology and the Superior Athlete. London: The Macmillan Co.
- Richard, J. Crisp. (2000). Essential Social Psychology. Sage Publications.
- Robert N. Singer (2001). Motor Learning and Human Performance. New York: The Macmillan Co.

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- Robert N. Singer. (1989) The Psychology Domain Movement Behavior. Philadelphia: Lea and Febiger.
- Thelma Horn. (2002). Advances in Sports Psychology. Human Kinetic.
- Whiting, K, Karman,,. Hendry L.B & Jones M.G. (1999) Personality and Performance in Physical Education and Sports. London: Hendry Kimpton Publishers.
- Amrit Kumar, R, Moses. (1995). Introduction to Exercise Physiology. Madras: Poompugar Pathipagam.
- Beotra Alka. (2000) Drug Education Handbook on Drug Abuse in Sports: Sports Authority of India Delhi.
- Clarke, D.H. (1975). Exercise Physiology. New Jersey: Prentice Hall Inc., Englewood Cliffs.
- David, L Costill. (2004). Physiology of Sports and Exercise. Human Kinetics.
- Fox, E.L., and Mathews, D.K. (1981). The Physiological Basis of Physical Education and Athletics. Philadelphia: Sanders College Publishing.
- Guyton, A.C. (1976). Textbook of Medical Physiology. Philadelphia: W.B. Sanders co.
- Richard, W. Bowers. (1989). Sports Physiology. WMC: Brown Publishers.
- Sandhya Tiwaji. (1999). Exercise Physiology. Sports Publishers.
- Shaver, L. (1981). Essentials of Exercise Physiology. New Delhi: Subject Publications.
- Vincent, T. Murche. (2007). Elementary Physiology. Hyderabad: Sports Publication.
- William, D. Mc Aradle. (1996). Exercise Physiology, Energy, Nutrition and Human
- Performance. Philadelphia: Lippincott Williams and Wilkins Company.
- Cart, E. Klafs &Daniel, D. Arnheim (1999) Modern Principles of Athletic Training St. Louis C. V. Mosphy Company
- Daniel, D. Arnheim (1991) Principles of Athletic Traning, St. Luis, Mosby Year Book
- David R. Mottram (1996) Drugs in Sport, School of Pharmacy, Liverpool: John Moore University.
- Gary, T. Moran (1997) – Cross Training for Sports, Canada : Human Kinetics
- Hardayal Singh (1991) Science of Sports Training, New Delhi, DVS Publications
- Jensen, C.R. & Fisher A.G. (2000) Scientific Basic of Athletic Conditioning, Philadelphia
- Ronald, P. Pfeiffer (1998) Concepts of Athletics Training 2nd Edition, London: Jones and
- Bartlett Publications Yograj Thani (2003), Sports Training, Delhi : Sports Publications