

MAHARSHI DAYANAND UNIVERSITY ROHTAK
DEPARTMENT OF PHYSICAL EDUCATION
Scheme of Examinations for M.phil/ Ph. D. Course Work (Physical Education)

Duration: One Semester (Six months)

Total Credit requirement: 14 credits

SEMESTER 1						
Course Code	Nomenclature of Course	Theory marks (end semester examination)	Internal Assessment marks	Maximum marks	Hours /Week	Credits
17PHEMP11C1	Research Methodology	80	20	100	4	4
17PHEMP11C2	Statistics in Physical Education	80	20	100	4	4
17PHEMP11C3	Computer Applications in physical Education	80	20	100	4	4
20MPCC1	Research and Publication Ethics	40	10	50	2	2
Total marks/Credits				350		14

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Paper Code	Nomenclature	Hours/ week (L+T+P)	Marks			Exam. (hrs)	Credit L+T+P
					Total		
17PHEMP12C1	Measurement Evaluation in Physical Education.	4+0+0			100	3 hrs	4+0+0=4
17PHEMP12C2A 17PHEMP12C2B 17PHEMP12C2C	Optional :- Sports Bio- mechanics Sports Psychology Sports Management	4+0+0			100	3 hrs	4+0+0=4
17PHEMP12C 3	Dissertation	150+50= 200				Viva- voca	08
Credits						Total credits =16	

Total credits required for M.Phil Programme = 14 (Semester I) + 16 (Semester II) = 30 Credits

Total credits required for Ph.D. Programme = 14 Credits (Semester I)

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Paper-I RESEARCH METHODOLOGY
17PHEMP11C1

Time – 3 hours

Max. Marks = 100
External marks: 80
Internal marks: 20

COURSE OUTCOMES

CO 1: The students would be able to understand the concept of research

CO 2: The students would be able to define meaning, nature, scope, and purposes of Research in physical education and sports.

CO 3: The students would be able to understand the types and methods of research in physical education and sports.

CO 4: The students would be able to illustrate meaning, criteria and sources for identifying the research problems.

CO 5: The students would be able to describe the importance and various sources of review of related literature and hypothesis & sampling.

UNIT – I
RESEARCH

- Meaning, Need, Nature and scope of Research in Physical Education
- Characteristics of a good research
- Fundamental, applied and action research

REVIEW OF LITERATURE

- Importance, location of the research material – index, books, bibliography; reviews and abstract, critical literature and allied literature
- Steps in reviewing literature
- Not taking, scanning and skimming,

UNIT-II RESEARCH PROBLEM

- Identification of area for research in Physical Education
- Selection of problem
- Delimitation and operationalization of variables

HYPOTHESIS

- Meaning and Importance
- Characteristics of good hypothesis
- Sources (iv) Types of hypothesis

UNIT-III

METHODS OF RESEARCH

- Historical
- Descriptive
- Experimental
- Philosophical

RESEARCH DESIGN

- Meaning of research design and its importance
- Type of research design

UNIT-IV

SAMPLING

- Concept of population and sample
- Method of sampling : Probability and non-probability

TOOLS & TECHNIQUES

- Characteristics of a good research tools
- Questionnaire, Interview, Observation, Psychological Test, Sociometric Techniques, Attitude Scale, Inventories

REPORT WRITING

- Developing research proposal (synopsis)
- Characteristics of a good research report


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General format of a research report

REFERENCE

1. Aggarwal, Y.P. (1998) The Science of Educational Research, A Source book, Nirmal, Kurukshetra.
2. Garrett, H.E. (1973), Statistics in Psychology and Education Vakils, Feffer and Simon, Bombay.
3. Good: C.V. and Douglas, E.Scates 1954, Methods in Social Research, Mcgraw Hill, New York.
4. Kou, Lokesh (1988), Methodology of Research, Vikas, New Delhi.
5. Mouly, A.J. (1963), The Science of Educational Research Euroasia, New Delhi.

Paper-II STATISTICS IN PHYSICAL EDUCATION
17PHEMP11C2

Time – 3 hours

Max. Marks = 100
External marks: 80
Internal marks: 20

COURSE OUTCOMES

- CO 1: The students would be able to differentiate different types of data i.e. Quantitative data & Qualitative data.
- CO 2: The students would be able to do practical orientation involving selection of appropriatedata analysis techniques.
- CO 3: The students would be able to explain and illustrate the concept & application ofmeasures of central tendency dispersion and relative positions.
- CO 4: The students would be able to describe the meaning, assumptions, computation & uses ofT-Test, ANOVA & NPS
- CO 5: The students would be able to differentiate between parametric test &non-parametric test.

UNIT-I

STATISTICS

- Meaning and importance in Physical Education

DATA

- Method of organizing data through frequency distribution

MEASURE OF CENTRAL TENDENCY (meaning and computation)

- Mean, Median, Mode.

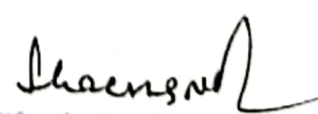
UNIT-II

MEASURES OF DISPERSION (Meaning & Computation)

- Range
- Quartile Deviation
- Average Deviation
- Standard Deviation

MEASURES OF RELATIVE POSITION

- Meaning & Computation
- Percentile

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- Percentile rank

UNIT-III

NORMAL PROBABILITY CURVE

- Meaning
- Characteristics
- Application
- Skewness and Kurtosis

CORRELATION

- (Meaning uses and computation)
- Product Moment Correlation Rank Difference Correlation (a) Partial and Multiple (b) Phi and Tetrachoric

UNIT-IV

ANALYSIS OF VARIANCE

- Meaning, Assumption and Computation (a) One way Anova (b) Two way Anova

CHI-SQUARE

- tests of equality and Independence (Meaning, Assumption and Computation)

T-TEST:

- Significance of difference between two means (independence samples)

REFERENCE

1. Siegel, S. (1986), Non-parametric Statistic, McGraw Hill, New York.
2. Van Dalen, D.B., (1992), Understanding Educational Research, McGraw Hill, New York.
3. Garrett, H.E. (1973), Statistics in Psychology and Education Vakils, Feffer and Simon, Bombay.

PAPER-III

Computer Applications in Physical Education
17PHEMP11C3

Max. Marks: 80

Int. Marks: 20

Time: 3 hours

COURSE OUTCOMES

CO 1: The students would be able to understand the basics & types of computer and aware about fundamentals of computer hardware and software.

CO 2: The students would be able to familiar with Net working & Internet.

CO 3: The students would be able to understand and able to use of different types of application software i.e. MS-word, MS-Excel etc.

CO 4: The students would be able to develop understanding about E-Book and Virtual library.

CO 5: The students would be able to analyze the concept of plagiarism.

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UNIT-I

- Definition of Computer, Block diagram of computers, classification of computers, role of computer in Physical Education.
- Components of Computer
Hardware {CPU, Monitor, Keyboard etc.}
Software {DOS, Basic, Colbol}

UNIT-II

- What is an OS? Functions of an OS?
- OS as a resource manager, Types of OS, Features of OS, Concepts of warm & Cold booting, swapping, spooling and buffering.

UNIT-III

- **MS-office and data Analysis Software**
- Word-Introduction of word processor, creating & saving documents.
- Excel- Introduction to excel, need of spreadsheet, creating, opening & saving workbook, editing worksheet, using links, applying different views, Types of functions.
- Power Point-Introduction of slides, speaker notes, media clips, graphs, picture, web pages, adding different kind of slides, working with Power Point, inserting text objects, formatting Text.
- Introduction to Data analysis software SPSS & application of t-test, Chi square and Anova through SPSS Soft-ware.

UNIT-IV

- Introduction
- Evaluating internet resources: Authority, Accuracy and objectivity.
- Brief note on e-books and virtual library.
- UGC-infonet, INFLIBNET and ERNET.
- What is Plagiarism and how to avoid it?

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Name of the Program	MPhil/Ph.D. Course Work Physical Education	Program Code	PHEMP
Name of the Course	Research and Publication Ethics	Course Code	20MPCC1
Hours/Week	2	Credits	2
Max. Marks.	50	Time	3 Hours
End Exam	40 marks	Internal Assessment	10 marks

Note: The examiner has to set a total of eight questions comprising two questions from each unit. A candidate has to attempt one question from each unit. All questions carry equal marks.

Course Objectives:

1. To study the philosophy of ethics
2. To study the scientific conduct of research
3. To study the publication ethics
4. To know about various journal citation databases
5. To know the importance of quality publications

Course Outcomes:

By completion of course the student is able to

1. Ethics in conduct of scientific research
2. Know the scientific misconducts
3. How to avoid plagiarism and what are the penalties of plagiarism?
4. Know the quality of research publications.
5. Write research and review articles.

Unit - I

PHILOSOPHY AND ETHICS

1. Introduction to philosophy: definition, nature and scope, concept, branches
2. Ethics: definition, moral philosophy, nature of moral judgments and reactions

SCIENTIFIC CONDUCT

1. Ethics with respect to science and research
2. Intellectual honesty and research integrity
3. Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)
4. Redundant publications: duplicate and overlapping publications, salami slicing
5. Selective reporting and misrepresentation of data

**Unit -
II**

PUBLICATION ETHICS

1. Publication ethics: definition, introduction and importance
2. Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
3. Conflicts of interest
4. Publication misconduct: definition, concept, problems that lead to unethical behavior and viceversa, types
5. Violation of publication ethics, authorship and contributorship
6. Identification of publication misconduct, complaints and appeals
7. Predatory publishers and journals


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Unit - III

DATABASES AND RESEARCH METRICS

(A) Databases

1. Indexing databases
2. Citation databases: Web of Science, Scopus, etc.

(B) Research Metrics

1. Impact Factor of journal as per Journal Citation Report, SNIP, SIR, IPP, Cite Score
2. Metrics: h-index, g index, i10 index, altmetrics

Unit - IV

Practice OPEN ACCESS PUBLISHING

1. Open access publications and initiatives
2. SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies
3. Software tool to identify predatory publications developed by SPPU
4. Journal finder/journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggested, etc.

PUBLICATION MISCONDUCT

(A) Group Discussions

1. Subject specific ethical issues, FFP, authorship
2. Conflicts of interest
3. Complaints and appeals: examples and fraud from India and abroad

(B) Software tools (2 hrs.) :Use of plagiarism software like Turnitin, Urkund and other open source software tools

References: 1. Bird, A. (2006). Philosophy of Science, Routledge

2. P. Chaddah (2018) Ethics in Competitive Research: Do not get scooped; do not get plagiarised.

3. Indian National Science Academy (INSA), Ethics in Science Education, Research and Governance (2019).

4. Beall, J (2012), Predatory publishers are corrupting open access. Nature, 489(7415),179.

5. National Academy of Sciences, National Academy of Engineering and Institute of Medicine (2009). On being a Scientist: A guide to Responsible Conduct in Research, Third Edition, national Academic press.

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SEMESTER 2
PAPER- V

Measurement and Evaluation in Physical Education
17PHEMP12C1

Max. Marks: 80
Int. Marks: 20
Time: 3 hours

COURSE OUTCOMES

CO 1: Students would be able to know the meaning of measurement and evaluation and its importance in the field of physical education.

CO 2: It will be helpful to conduct the various tests for example- agility, balance strength, speed and power test.


CO 3: It will be helpful to know reliability, validity and norms of the test.

CO 4: It will be helpful in standardization of test.

UNIT-I

Measurement and Evaluation

- Measurement (Meaning and its levels)
- Evaluation
 - i. Meaning
 - ii. Need and Importance
 - iii. Characteristics

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- iv. Formative and Summative Evaluation
- v. External and Internal Evaluation (Advantages and disadvantages)
- Inter relationship between measurement and evaluation

UNIT-II

- Test Meaning & Importance
- Test for strength, Endurance, speed, flexibility & agility
- Administration of various fitness test
- Agility test: (a) Zigzag test (ii) Burpee test
- Mobility & Balance: Sit & Reach test (b) Trunk flexion test (c) Hip flexion test
- Strength: Chin-up test (b) Grip Strength test
- Speed & Power: 60 meter speed test (b) 400 meter sprint test

UNIT-III

CHARACTERISTICS OF A GOOD MEASURING INSTRUMENT

- Reliability (Concept and Procedures of Estimation)
- Validity (concept and Procedures of Estimation)
- Norms
- Usability

UNIT-IV

TEST STANDARIZATION

- Norm Referenced and Criteria Referenced
- Test, Standard Scores, T-scores
- Construction and standardization of Test
- Interpretation of Test Scores and Methods of Feedback to students.

References:

Measurement & Evaluation in Physical Education and Exercise Science – by Alan C. Lacy, Benjamin Cummings 2010

Paper-VI (Optional-1)
BIO-MECHANICS IN PHYSICAL EDUCATION & SPORTS
17PHEMP12C2A

Max. Marks: 80

Int. Marks: 20

Time: 3 hours

COURSE OUTCOMES

- CO 1: The students would be able to explain the Meaning Definition: functions and importance of Biomechanics in Phy. Edu and Sports
- CO 2: The student will be able to understand the Classes of lever and application of levers and Advantages of Lever in physical education and sports
- CO 3: The students would be able to illustrate the Drag, Skin Friction, Profile Drag, Effects of Stream lining on Drag.
- CO 4: The students would be able to understand the concept of Qualitative Bio-mechanical Analysis to improve Technique.
- CO 5: The students would be able to explain & illustrate the concept of spin, Magnus effect and its application in sports

UNIT-I

- Meaning Definition: functions and importance of Biomechanics in Phy. Edu and Sports
- Forms of Motion: Translatory: Rotatory and General
- Linear Kinematics: Speed and Velocity: acceleration; Acceleration due to Gravity; Vector and

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Sealer: Resultant Vector; Vector Components; Projectile Motion. Kinematics

UNIT-II

- Angular displacement and Angular distance; Torque; Angular Intertia; Angular Momentum
- Meaning of Force; Classifying Forces (Internal & External) Resoution of Forces: Static-Equilibrium
- Newtons Laws of Motion: Law of Interia: Law of acceleration: Law of Action and Reactions
- Definition of Levers: Classes of lever and application of levers: Advantages of Lever

UNIT-III

- Spin and its types
- Effect of spin on speed and direction on the object on surface
- Effect of spin on Speed and direction of the object in air
- The magnus Effect
- Drag: Skin Friction; Profile Drag: Effects of Stream lining on Drag
- Terminal Velocity
- Fluid Mechanics: Buoyout Force: relative Motion: fluid Resistance

UNIT-IV

- Bio-mechanical Analysis and its types
- Qualitative Bio-mechanical Analysis to improve Technique
- Analysis of Sports Techniques
- Track: i) Running Basic consideration
 - ii) Sprint (Start & Running): Leg action, (Support, Drive and Recovery Phases)
 - iii) High Hurdling: Approach; take off; Flight; between hurdles
- Field (Jumping) (i) High Hump (Fosbury Flop): Run up; take off; Bar clearance and landing
(ii) Long Jump (Hang style) Run up: take off; Flight and Landing
- Field (Throws) (i) Shotput (O'Brain-style) Initial stance; Glide; Delivery and Reverse (ii) Javelin: Grip: Carry: Run; withdrawal: Cross Step and Reverse

**Paper- VI (Optional-2)
SPORTS PSYCHOLOGY
17PHEMP12C2B**

Max. Marks: 80

Int. Marks: 20

Time: 3 hours

COURSE OUTCOMES

- CO 1:** The students would be able to explain the Meaning Definition and importance of SportsPsychology in Phy. Edu and Sports.
- CO 2:** The student will be able to understand the different Methods of Psychology in Physical Education and their Utility.
- CO 3:** The students would be able to know and understand the concept and various aspects ofbehavior and different Theories of Play.
- CO 4:** The students would be able to explain the Meaning, types and importance of transfer of training
- CO 5:** The students would be able to explain the Psyche up techniques for Sports Performancelike Goal Setting, Pap- talks, Bulletin Boards, Mass Media, Fan Support etc.

UNIT-I

**Introduction of Sports Psychology
Definition of Psychology and Sports Psychology, Areas of Psychological studies in PhysicalEducation.**

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Methods of Psychology in Physical Education and their Utility.

UNIT-II

Meaning and Kinds of Behaviour.
Various aspects of behavior. Characteristics of behavior. Process of Human Behaviour.
Definition of Play. Theories of Play.
Value of Play

UNIT-III

Meaning and types of transfer of training.
Different theories, importance of transfer of training
Competition as a social necessity
Competition and Motivation
Competition and Co-operation and its significance in sports.

UNIT-IV


Psyche up techniques for Sports Performance -Goal Setting, Pap- talks, Bulletin Boards, Mass Media, Fan Support.
Pre-competitive work out, Post competition evaluation Guidelines for improving sports performance.

ASSIGNMENTS

Sociometric test, Personality Test (16 P.F.) Sports Competition anxiety test.
H.S. Ashtnana's adjustments inventory.

REFERENCE

1. Bhatia, Hans Raj, Test Book of Education Psychology, Delhi: Macmillan, 2003.
2. Rouben.B.Frost : Psychological concepts applied to Physical Education and Coaching, Edition, Wesley Publishing Co.London.
3. Dridge & Hung : Psychological foundations of Education. Harper and Row Publishers.
4. Jain, D., Introduction to Psychology, New Delhi: K.S.K, 2003.
5. Kamlesh, M.L. Education Sports Psychology, New Delhi, Friends Pub., 2006.
6. Kamlesh, M.L., Key Ideas in Sport Psychology, New Delhi, Friends Pub. 2007 Kutty, S.K Foundations of Sports & Exercise Psychology, New Delhi: Sports, 2004.
7. Robert.S.Weinberg - Foundations of Sports and Exercise Psychology (Third Edition) Daniel Gould
8. Jack H. Liewellyn - Psychology of Coaching : Theory and Application (Surjeet Publisher New Judy A. Blucker Delhi)
9. Jashwant Kaur Virk - Psychology of Teaching and Learning (Twenty First Century Publication Pardeep Kumar Sahu Patiala, 2008)

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PAPER-VI (OPTIONAL -3)
SPORTS MANAGEMENT
17PHEMP12C2C

Time: 3 hours

Max. Marks: 80
Int. Marks: 20

COURSE OUTCOMES

CO 1: The students would be able to explain the Scope and Concept of Sports Management and concept of Administration

CO 2: The students would be able to understand and know the rule and regulations, procedure and attributes of an organization.

CO 3: The students would be able to know the Designation and meaning of leadership and motivation

CO 4: The students would be able to understand the concept of Direct and Indirect public relation.

CO 5: The students would be able to understand the importance of public relation media & press relations.

UNIT-I

- a. Scope and Concept of Sports Management, (Element or Function)
- b. Management, its advantages, organizing in Sports, staffing controlling in sports, Importance and Philosophy of Sports Management system and profession.
- c. Scope and concept of Administration, relation between administration Sports Management, Importance of Sports administration, planning, organization, resource mobilization, Principles of Planning, Pol standard practices.

UNIT-II

- d. Organizational elements, rules and regulations, procedure and attributes of an organization, delegation of authority and division of power, Destination characteristics of delegation, organization dynamics, open and close advantages and disadvantage, type of organizations, line organizational structure, their functional pattern, manpower plan features of human resources, controlling and development organizational structures and practices.

UNIT-III

- e. Designation, meaning of leadership, its personality traits, leadership managerial grid, qualities of leader, leadership and managerial behavior approach, co-ordination: its definition, Principle and techniques co-ordination. Motivation for sports, enhancement of motivation, motivation in sports organizations and participation, motivator in sports, organizations and participation, incentive as motivator sports.
- f. Direct and Indirect public relation, importance of public relation media, press relations, qualities of good PRO, correspondence and public relation establishment, community involvement and relations.

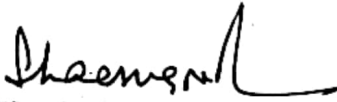
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UNIT-IV FINANCE AND BUDGET FOR SPORTS.

- g. Infrastructure, equipment, salaries, rewards, rising of funds, funds-drives, budget: functional budget, works expenses budget, performance budgeting, management of denial resources.
- h. Physical Education Programmers, Teaching Methods, Class Management Intramural, recreational and leisure services, planning, construct maintenance of facilities, use of computer. Inter scholastic & Inter Collegiate athletics and competitions, School Health Education.

REFERENCES

1. Administration of Physical Education and Athletics/Sports practices, Reubden D.Frost, BarburaBay Lckgart, Stanlay J. Manchsal Universal Book Stall, 5 Ansari Road, New Delhi.
2. Sports Management, Sudhanca Shekhar Ray, Friends Pub. (India) Delhi 110089
3. Organization and Administration of Physical Education, S.Dher/Radhika Kamal

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