



**UNIVERSITY OF RAJASTHAN**

**JAIPUR**

**SYLLABUS**

**M.PHIL IN PHYSICAL EDUCATION**

**2016-2017**

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**Degree of Master of Philosophy (M.Phil) in Physical Education**  
**Syllabus, Scheme of Examination, Admission procedure, Fee structure etc.**  
**SCHEME OF M. PHIL. EXAMINATION**

**Part – I Theory Papers**

**A Compulsory paper**

	Name of paper	Annual Exam.	Sessional mark	Total
Paper- I	Research.Process and Statistics	80	20	100

**B Specialization Area: (Each candidate to select one Specialization Group from the Following at the time of registration)**

	Name of paper	Annual Exam.	Sessional Mark	Total
Paper- II A	Physiology of Exercise	80	20	100
Paper- II B	Physiology of Exercise	80	20	100
Paper- III A	Sports Psychology	80	20	100
Paper- III B	Sports Psychology	80	20	100
Paper- IV A	Sports Biomechanics & Kinesiology	80	20	100
Paper- IV B	Sports Biomechanics & Kinesiology	80	20	100
Paper- V A	Management of Physical Education & Sports	80	20	100
Paper- V B	Management of Physical Education & Sports	80	20	100

**Part –II Compulsory**

Paper-VI	Dissertation	100	-	100
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**REGULATIONS**

- ELIGIBILITY:** A candidate who has obtained the degree of Master of Physical Education of Raj. University or any other University recognized by the Raj. University any other qualification considered as equivalent there of by Raj. University, obtaining at least 50% marks, and has passed the qualifying entrance examination conducted by the Deptt. is eligible to register for the Master of Philosophy Degree, (M. Phil) in Physical Education.
- ADMISSION PROCEDURE:** The written test for in-service candidates & fresh candidates will be conducted only once, and shall consist of a paper of three hours duration and shall include topics of Physical Education and allied subjects as taught to Master Degree students besides knowledge of current trends' in Physical Education and Sports of and subject to being selected On the basis of 'Admission Test' prevailing in the year when admission is sought in the institute. A candidate should score 50% marks in the entrance tests to become eligible for admission.  
**NOTE:**  
Only those who possess at least three year's service experience after passing M. P. E. I M. P. Ed. / will be treated as in service candidates and all others will be treated as fresh candidates for the purpose of entrance examination.
- DURATION:** The Minimum period of completing the M, Phil course in Physical Education will be one academic year.
- ATTENDANCE:** A candidate is expected to put in attendance in scheduled classes, seminars, practical and tutorials, However, leave may be sanctioned on account of illness, injury or other similar reasons. Each candidate will be required to attend and participate in at least two seminars and deliberate at least one seminar pertaining to his dissertation. Irregular attendance and/or unsatisfactory performance at the seminars/tutorials shall disqualify the M. Phil, students, from further studies on the recommendation of the M. Phil committee.
- EVALUATION:** All the candidates who register themselves for M. Phil in Physical Education shall appear and qualify in the examination according to the following scheme.

**PART I THEORY COURSES**

**A Compulsory Papers:**

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Paper- I Research process & Statistics.

B Specialization Area: (Each candidate to select one Specialization Group from the Following at the time of registration)

- Paper- II A Physiology of Exercise
- Paper- II B Physiology of Exercise
- Paper- III A Sports Psychology
- Paper- III B Sports Psychology
- Paper- IV A Sports Biomechanics & Kinesiology
- Paper- IV B Sports Biomechanics & Kinesiology
- Paper- V A Management of Physical Education & Sports
- Paper- V B Management of Physical Education & Sports

Part -II Compulsory

Paper-VI Dissertation

Part-III Compulsory

A candidate who does not secure minimum pass mark in a particular paper / papers shall be permitted to reappear in that paper/papers only once as an ex-student in the subsequent examination following the first examination.

In order to pass the examination, a candidate must obtain at least 50% marks in each written paper separately in the University examination and also obtain at least 50% marks, in the aggregate marks of the paper including the seasonal marks in each paper. No minimum pass percentage is prescribed for the seasonal grades.

Seasonal marks obtained by a candidate shall be carried over if a candidate fails in the final examination in any or all papers of the examination and appears as ex-student.

#### 1. ADMINISTRATION OF THE M. PHIL DEGREE PROGRAMME:

- i. The M. Phil programme will be administered through M. Phil Committee which shall consist of:-
  1. Head of Department
  2. Convenor of admission
  3. Not more than three staff members of Deptt. with Ph. D. and teaching M.Phil course to be nominated by the Head.
  4. Two Dominated members (external) by the Vice-chancellor of Raj. University
2. The M. Phil Committee will:- Recommend admission of the M. Phi course and assign supervisor to guide in selection of topics for dissertation and guide the scholar. in the completion or dissertations.
  1. Prescribe the course content and suggest the reference books.
  2. Organise seminars/tutorials etc.
  3. Make arrangements for evaluating performance of M. Phil students at the seminars.
  4. Recommend names of examiners for M. Phil examinations (both theory and dissertation).
  5. Recommend to the University for the award of the degree to qualified students on the basis of assessment.
  6. Any other matter related to M. Phil course.

#### Fee Schedule

1. As per University norms for students who are selected on merit basis
2. For SFS candidates as per University Norms for students who are selected on merit basis.

## PAPER-I RESEARCH PROCESS & STATISTICS

### Unit- I

1. Meaning, Nature, Need and Scope of Research in Physical Education.
2. Classification of Research-Basic Research, Applied Research and Action Research.

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3. Characteristic of good Research, Qualities of a good Researcher.  
Difference between fundamental and Action Research.
4. The problem Locating the problem and criteria in selecting a problem,
5. Statement of the problem. Delimitation and Limitation.
6. Meaning and Significance of Hypothesis.
7. Type of Hypothesis,
8. Procedure of testing of Hypothesis
9. Non-Laboratory Studies.  
Historical Research,
10. Evaluation of Historical Data,
11. General Principles of Historical critics,
12. Pit falls in Historical Research, Steps involved in Historical Research.
  - a. Philosophical studies. Steps in Philosophical, Research, Critical Thinking continues, Pit fall in Philosophical Research, Precaution in the use of Philosophical Research,
  - b. Surveys, Type of Survey; Criteria of Good Surveyor, Process of Survey Research

#### Unit- II

1. Laboratory Research; Experimental Designs.
2. Principles of Experimental inquiry (Mills Cannons Control of Experimental Factors, Instrumentation Establishing the Research Laboratory.
3. Research Report:
4. Research Proposal, tables, figures footnotes and bibliography.
5. Elementary Statistical Concepts

#### Unit- III

1. Analysis of Variance:  
Need for analysis of variance,
2. combined, Standard deviation of samples.
3. One-way Analysis is of variance and two way analysis of Variance
4. Post Hoc Tests of significance.
5. Analysis of Co-Variance :  
(No problem to be given in this area).
6. Partial and Multiple Correlations:  
Meaning and Limitations of partial correlation method.  
Partial correlation-computation.  
Meaning of Multiple Correlation.  
Computation of Multiple correlation.

#### Unit- IV

1. Prediction and Wherry-Deolittle Method:  
Meaning or prediction.
2. Two-variable Regression Equations.  
Multiple regression Equations.
3. Wherry Doolittle Method of Multiple Correlation
4. Special Correlation and Non-Parametric Methods: Chi-square.  
Rank-Difference Method of correlations.  
Biserial correlation.  
Terachoric correlation.  
Phi-coefficient.  
Contingency coefficient.  
Curvilinear Relationships.
5. Programming with basic, Expressions in basic, Printer control, commas, Semicolon, Tab, Using I Print, Jumping, Branching and looping, Subscripted Variables and Functions, Programmes of Mean, S.D., Coefficient, One Way ANOVA and two way ANOVA, Chi-Square etc.
6. Practical ; The practical would be conducted in the area of programming with BASIC and application of statistical techniques in the research problems of Physical Education

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## REFERENCE:-

- Aggarwal, J. C. Educational & Research-An Introduction (New Delhi: Surya Book Depot, 1966)
- Best John, Research in Education. (New Delhi Prentio Hall of India, Pvt. Ltd., 1963.)
- Clarke David H. and Clarke H. Harrison. Research Process in Physical Education, Engle Wood Cliffs. New Jersey Prentice Hall Inc. 1984.
- Moule, George J. The Science of Educational Research (New Dehli : Eurasia Publishing House (Pvt.) Ltd. 1963)
- Moule, George J. The Science of Educational Research (New Dehli : Eurasia Publishing House (Pvt.) Ltd. 1963)
- Robson M., Uppal, A. K. and Brar T.S., Thesis Format (Gwaliör, L. N. C. P. E, 1979)
- Bloomers, Paul and Lindquist E.F. Statistical Methods in Phychology and Education. (Calcutta, Oxford Boot Company, 1959).
- Clerke, David H. and Clarke H. Harrison, Research Processes in Physical Education (Engle wood Cliffs, New Jersey : Prentice Hall Inc., 1976)
- Garret, H. E. and Wood Wosth R. S. Statistics in psychology and Education. Bombay: Allide Pacific Co. Ltd. 1958.)
- Guilferd, J. P. Fundamental Statistics in Phychology And Eduction. (New York Me Graw Hill Book Co. Inc, 1956.)
- Steel Robert C. D. and Torie, Manes A. Principles and Procedures or Statistics (New York Mc. Graw Hill Book Co. 1960.)
- Clarke H. H. and Clarke D. H. advanced statistics with application to physical Education recreation & health London. Prentice Hall Inc.

## PAPER II (A) Physiology of Exercise

### Unit- I

1. Structure and functions of Muscle:  
Classification or muscles,
2. Structure of muscle tissues,
3. Various theories of muscular, contraction.
4. Hypertrophy of musoles in relation to physical activity.
5. Neuromuscular Physiology:  
Neuro, Motor units. Neuromuscular junction Bioelectric potential, kinesthesia. Tone, posture and equilibrium.

### Unit- II

1. Bio-Energetics:  
Fuel for muscular work, and Energy for muscular contraction,
2. Aerobic and Anaerobic system- Interrelationship of Aerobic and Anaerobic system with special reference to different activities.
3. Anaerobic-Threshold training.

### Unit- III

1. Effect of smoking,
2. Drinking and Drugs and athletic performance,
3. Dope testing Procedure
4. Work and Environment:  
Work capacity under different environmental conditions such as hot humid, cold and nigh altitude.

### Unit- IV

1. Sports and Nutritions:  
Physiological considerations of diet in relation to components quantities and significance,
2. Sport and diet and diet before during and after competition.
3. Glycogen boosting:  
Determination of energy cost of various sports activities.

## OPTIONAL PAPER II (B) Physiology of Exercise

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### Unit- I

1. Role of sports medicine in the field of Physical Education and Sport.
2. Physiological Changes Due to Exercise and Training:  
Effect exercise and training on various systems Oxygen debt second wind.
3. Micro-circulation. Effect of exercise on carbohydrate fat and protein metabolism.

### Unit- II

1. Prediction and performance by lab and field testing.
2. Role, importance and construction of any National Physical Fitness programme physiological approach.

### Unit- III

1. Growth and Development:
  - a. Individual rate of growth and development.
  - b. Role of Heredity and environment on sports Performance.

### Unit- IV

1. Instrumentation:  
Various instruments/equipments used in the field of exercise physiology lab in Bio-chemical, Histological and other studies.
2. Sex difference and sports:  
Exercise-Aging and Cardio-vascular diseases.

### REFERENCES:-

- Guyton, A.C. Text Book of Medical Physiology (Philadelphia. W.B. Saunders company 1976)
- De. Varics, H.A. Physiology of exercise for (Physical Education and Athletics. London: Staples Press London 1976)
- Karpovich, P.v. and Sinning W.E. Physiology of Muscular Activity, (London, W.B. Saunders Co. London 1971)
- Baurone, G.H. The Structure and Function of Muscles (Academic Press London:1972)
- Morehouse, L.E. & Miller, A.T. Physiology of Exercise C.V. Mosby Company St. Louis, 1976)
- P.O. Astrand, and Rodahat K. Text Book of Work Physiology (Mc. Graw Hill Koga Kucha Ltd. 1970)
- Mathew D.K. and Fox E.L. Physiological Basis of Physical Eduation & Athletics, (Philadelphia W.B. Saunders Company 1976).
- Katch and Datch, Exercise Physiology, Energy, Nurition & Human Performance U.K. Henry Kimpson, 1981)
- Bargar, A.R. Applied Exercise Physiology Lea and Febiger, 1982) (Philadelphia :
- Shaner L.g. Essentials of Exercise Physiology. (New Delhi Surjeet Publications, 1982).

## Sports Psychology OPTIONAL PAPER III (A)

### Unit- I

1. The History & Development of Sport Psychology.
2. Psychology of Play:
3. Traditional Theories of Play.
4. Twentieth Century Theories of Play.
5. The Psycho analytic position on Play,
6. The Behavioristic Position on Play.
7. The Cognitive Position on play.

### Unit- II

1. Psychology of Motor Learning:  
Meaning of the Term
2. Perceptual Motor Learning
3. Retension of Motor skill.
4. Transfer of Skill.
5. Meaning & Measurement of Learning Curve,  
Attention and its role in Learning Motor Skill,

### Unit- III

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1. Personality of sports persons and Coaches :  
Nature of personality,
2. The issue of Heredity in Personality, Personality Traits and Sports person,
3. Assessment of Personality Traits.
4. The Coaches and their Personality traits.
5. Motivation in Sports: Nature or Motivation,
6. Theories of Motivation,
7. Achievement Motivation, Motivation and participation In Physical Activity.
8. Drop outs in Sport.

#### Unit- IV

1. Psychology of Competition : Psychological Characteristic of Pre-During and Post Competition (Anxiety, Fear, Frustration),
2. Mental Training,
3. Psychological Preparation for Competition.
4. Psychology of Running.
5. Running Through Your mind. Running Addiction,
6. The Anxiety of Runner.
7. Moral growth of Sports.

### Sports Psychology OPTIONAL PAPER III (B)

#### Unit- I

1. Problem of Sports persons and how to solve their Problems.
2. Aggression in Sports:
3. Theories of Aggression,
4. Cause. of Aggression,
5. Aggression and its influence on performance.

#### Unit- II

1. Sosio-Psychological Dimensions of Sport :Sport performance in groups, Team combine,
2. Sociometry in Sport
3. Leadership in Sport,
4. Sport Audience and its effect on performance.
5. Psychological load in Competitive Sports:Meaning of Psychological Load.
6. Performance and Mental Load Capacity of a Sports persons.

#### Unit- III

1. Volitional Regulation In Sport: Characteristics of Volitionally Regulated
2. Actions Factors affecting Volitionally Regulation,
3. Development of Volitional qualities.
4. Children in Sport : Early Psychological Experiences,
5. Motivation of Children In Sport.
6. Emotions of Children in Sport,
7. Children and Competitive Sport.

#### Unit- IV

1. Woman in Sport:  
Issues and Controversies
2. Physical Activity and the Psychological Development of the Handicapped.

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## REFERENCE:

- Alderman, R.S. Psychological Behaviour in Sports, (Philadelphia: W.B. Saunder Company, 1974.)  
Butt Dorce Susan, Psychology of Sports, (New York, Van Nasthand Reinhold Company, 1979)  
Cratty Brant J. Movement Behaviour and Motor Learning Philadelphia: Lea and Febige, 1975) 3rd edition.  
Cratty Bryant J. Psychology of Contempont Sports, (Englewood Cliffis, N.J. Prentice Hall Inc, 1976)  
Cratty Bryant, J. Psychology and Physical Activity, Englewood Cliffis, N.J. Prentice Hall Inc, 1978)  
Cratty Bryant. J. Psychological Preparation & Athletic Excellence, New York: Movemnet Publication Inc 1978)  
Coakley Jay, Sports in Society issues and Controversles (St. Louis, The C.V. Mosby Company, 1982)  
Gold Stein and Jaoffery H. Sports Games & Play Social and Psychological View points. (Lawrence Erlhaum Associates Publishers X.J. 1979)  
Kamlesh M.L.: Psychology of Physical Education & Sports Metropolitan Book Co. Pvt. Ltd. 1983)  
Kane J.e. Psychological Aspect of Phy6sical Education and Sports (London: Routwdge and Kega Paul 1972)  
Lbwolayn Jack K. & Blucker Juoley A. : Psychology of Coaching Theory & Application. New Delhi Surject Publications. 1982)  
Martens Rainer, Social Psychology and Physical Activity, New York, Harper & Row Publishe s, 1975)  
Ogilives Black & Tutko. Thomas A. Problem Athletics and How to Handle Them. (Pelham Books 1968)  
Singer Rober N. Sastaining Motivation in Sport, (Tallehese Flasde, Sports Consultant Incor National Zone, 1984)  
Singer Rober N. Motor Learning and Human performance (Nwe York, Mac Millan, Publishing co. 1975)  
Singer, Robert N. Coaching Athletic and Psychology. (New York Mc row Hills Book Company 1972.)  
Sack Michael H. Sads Michael L. Psychology of Running Hlinor Human Kanetics Publishers Inc. Company 1981)  
Tutko, Thomas. A. Richards Jack W. Psychology of Coaching, Boston: Allyn and Bacon Inc., 1971)

## PAPER-IV (A) Sports Biomechanics & Kinesiology

### Unit- I

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## Introduction

1. Meaning; Definition of Biomechanics & Kinesiology.
2. Importance, Nature and scope of Biomechanics & Kinesiology.
3. History and Growth of Biomechanics & Kinesiology in Physical Education & Sports.
4. Movement Analysis, Kinesiology analysis, Mechanical Analysis and Biomechanical Analysis.
5. Fundamental Axis and Planes

## Unit- II

1. Fundamental Movements of the Body.
2. Human Motion
  - i. Meaning
  - ii. Types of Motion
3. Neuro Muscular basis of human Motion
  - i. Definition of Muscle : Classification of Muscle
  - ii. Type of contraction
  - iii. Properties of Skeletal Muscles : gross structure of Skeletal Muscle.
  - iv. All or none Law. Muscular fatigue, muscle cramp, Muscle tone

## Unit- III

1. Linear Kinematics :
  - Distance and Displacement
2. Speed
  - Uniform Speed
  - Non Uniform Speed
  - Average Speed
3. Velocity:
  - Uniform Velocity
  - Distinction between Uniform velocity & Uniform Speed
  - Non Uniform velocity
  - Average Velocity
4. Vector and Scalar Quantity
5. Acceleration and Deceleration

## Unit- IV

1. Angular Kinematics:
  - Angular Distance and Angular Displacement,
  - Angular Speed and Angular
  - Angular Acceleration
  - Linear and Angular Kinematics
  - Units in Angular Kinematics

### REFERENCE BOOK:

- Hay, James Co. Biomechanics of Sports Techniques. (Englewood Cliffs, N. J. : Prentice Hall, 1978)
- Hay, James Co. and Reid, The Anatomical and Mechanical Bases of Human Motion. (Englewood Cliffs N. J. Prentice hall 1982.)
- Cesive D. W. and Millor Don's Techniques of Analysis of Human Movement (London: Lepus Boot. 1975)
- William and Lissoner, Bio-mechanics of Human Motion (London : W. B, Saunders Company, 1977)
- Simonian Charles, Fundamentals of Sports Bio-Mechanics (Englewood Cliffs, N. J. Prentice Hall, 1981)
- Hay James G. and Reid J. C. avin, Anatomy, Mechanics and Human Motion (Englewood Cliffs, N. J. Prentice Hall Inc., 1988)

## PAPER-IV (B) Sports Biomechanics & Kinesiology

### Unit- I

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1. Linear Kinetics :
2. Inertia, mass and weight
3. Force,
  - Meaning : Unit f force
  - Effect of force: source of force
  - Components and resultants
  - Internal & External forces
4. Newton's laws of motion
5. Friction : Laws and types of friction
6. Impulse; Pressure, Impact
7. Hook, Power, Energy.

#### Unit- II

1. Angular Kinetics:
  - Equilibrium, center of Gravity, Line of Gravity
2. Stability
  - Types of stability
  - Factors influencing stability
3. Levers: types of levers. Lever Arms; mechanical ratio
4. Moment: centripetal and Centrifugal force.

#### Unit- III

1. Fluid mechanics
  - Flotation
  - Buoyant force
  - Specific Gravity
  - AImpulse, Pressure, Impact, work, power Energy.
2. Center of buoyancy
3. Fluid restance (Air)
4. Surface drag; form drag, lift , wave
5. Magnus effect.
6. Spin ; type of spin, effect of spin on tye angle of rebond uses of spins.

#### Unit- IV

1. Application of mechanical and muscular analysis of fundamental skills:-
  - Walking , Running, Jumping, Throwing ,
  - Application of mechanical and muscular analysis of Sports Skills
  - Basketball, Volleyball, Hockey and Football.

#### REFERENCES:-

- Wells, Katharine F. Kinesiology (Philadelphia: W. B. Saunders Company 1971)  
 Kelly, David L. Kinesiology Fundamental of Motion (Description New Jersey: Prentice Hall 1971)  
 Thompson, Clan W, Manual of Structural Kinesiology (Tho C. V. Msbly Company, 1977)  
 C. Graves Richard and Camaion, 'E. David, Concepts in Kinesociology (Philadelphia: W. E. Saunders Co. 1975)  
 Cooper, John M. and Classow, Rutcuhs B. Kinesiology(C. V. Mosby Comyany, St. Louis, 1968)  
 Rasch, Philip. and Burke. Roger K. Kinesiology and Applied Anatomy, (Philadelphia: Lea and Febiger, 1978)

**Management of Physical Education & Sports  
Paper –V (A)**

**Management of Physical Education & Sports  
Paper –V (B)**

Paper – VI Compulsory Dissertation

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Every candidate shall be required to submit a dissertation. The problem selected for dissertation shall ordinarily be from the area of specialization.

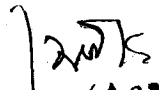
The proposal of the research problem of the Dissertation should be presented at a colloquium of teaching staff and M. Phil, course students. Five copies of the proposal in the proper format should be made available by the candidate before the colloquium for the perusal of the staff.

The proposal should indicate the nature and significance of the research problem, review of related literature, sources of data, experimental design, methodology etc.

Three copies of completed dissertation, along with three copies of abstract shall be submitted by the end of the academic year. Candidates are permitted to submit their thesis before the end of June, every year, of the year of examination, after which a late fee as per will be charged for each extension of six months not beyond two extensions, failing which the student will be declared failed in dissertation.

The dissertation under part-II shall be examined by a Committee of two experts (one internal and one external) possessing Doctorate qualification in Physical Education or in the Area of Specialization. The adviser shall be the internal examiner in the Committee. There shall be a Viva-voce examination on the Dissertation and this shall also be conducted by the same Committee. The dissertation will be on pass/fail basis and no marks will be awarded for dissertation. Those who fail in part II (Dissertation) shall be permitted to resubmit the Dissertation with changes

suggested and reappear for the Viva-voce examination within one year.

  
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