

# CHAUDHARY DEVI LAL UNIVERSITY, SIRSA

(Established by the State Legislature Act 9 of 2003)

## Department of Physical Education



### Syllabus and Scheme of Examination for

### Pre-Ph. D Course Work (Effective from Session 2017-18) From January 2018

Paper No.	Paper Title	Marks ( External+ Internal)
Course - I	Research Methodology	100 (70+30)
Course - II	Data Analysis and presentation	100 ( 70+30)
Course – III	Option – 1: Sports Psychology and Sociology Option – 2: Bio-mechanics and sports training	100 (70+30)
	Open Elective: Physical Education and its application	50 (30+20)

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**Pre-Ph. D Course work (Physical Education)**  
**Paper-I- Research Methodology**

**External Marks: 70**

**Internal Marks:-30**

**Time: 3 Hours**

**Note:-** The candidates are required to attempt **five** questions in all. **Nine** questions will be set. **Question no. 1** (five short questions of two marks each=10) will be **compulsory** and will be set from the entire syllabus. **Eight** questions will be set out of **4 units**, selecting **two** questions from each unit. The candidates are required to attempt **four** questions by selecting **one** question from each unit. Except question no. 1 all questions carry equal marks.

**Unit-I Introduction**

- i. Meaning, definition and objectives of Research.
- ii. Need, scope and significance of research in Physical Education.
- iii. Criteria of a good research
- iv. Qualities of a good research worker.

**-Research Problem**

- i. Meaning and definition research problem
- ii. Criteria for selection of a research problem.
- iii. Identification of area for research
- iv. Various steps in formulation of research problem.

**- Research Proposal**

- i. Meaning of research proposal.
- ii. Various steps in formulation of research proposal

**Unit-II Research Literature**

- i. Direct and indirect library sources.
- ii. Location of research material:  
Index, books, bibliography, abstracts, critical and allied literature.
- iii. Steps in reviewing literature: foot note, referen
- iv. ce, note taking and scanning.

**Sampling in Research**

- i. Concept of Population and Sample.
- ii. Criteria for selection of sampling procedure.
- iii. Types of sample designs: probability sample (random sample, stratified and cluster) and non-probability sample (judgment and quota).

**Unit-III Hypothesis:**

- i. Meaning and concept of hypothesis.
- ii. Sources and importance of characteristics good hypothesis.
- iii. Types of hypothesis (declarative, probable, null and questions)

**Methods of data collection**

- i. Types of data: quantity and qualitative.
- ii. Characteristics of good research tool.
- iii. Types of tools: collection of primary data (questionnaire, schedule, check list, rating scale, observation and interviews Socimetric techniques ) and collection of secondary data (journals, books, magazines and news papers)
- iv. Selection of appropriate method for data collection.

**Unit-IV Methods of Research**

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- i. Basic, applied and action research.
- ii. Case study and survey: meaning, steps, precautions and recommendation.
- iii. Historical research: meaning, values, scope, characteristics, steps, primary and secondary sources, internal and external criticism, pitfall and report.
- iv. Experimental Research: meaning, uses, characteristics, field versus laboratory.
- iv. Descriptive Research
- v. Causal comparative

#### **Research Design**

- i. Meaning, definition and Need of research design.
- ii. Characteristics of good design.
- iii. Basic principles of experimental design.
- iv. Types of experimental design: single, parallel, repeated and rotational.

#### **Research Report**

- i. General format of a research report: Preliminary section.
- ii. Main body: conclusion.
- iii. Bibliography and appendix.
- iv. Summary

#### **Reference Books:**

- i. S.P.Sukhla et al. (1983), Elements of Educational Research, Allied Publishers Pvt. Ltd., New Delhi.
- ii. American Association of Health, Physical Education And Recreation, "Research Methods"- "Applied to Health Physical Education and Recreation".
- iii. C.V.Gord(1954), Methods of Research, Appleton Century Crofts Inc., New Delhi.
- iv. L.W.Best(1980), Research in Education, Prentice Hall, New York.
- v. W.R.Muly(1975), Educational Research and Introduction, David Making Co., Inc., New Delhi.
- vi. D.H.Clarke(1970), Research Process in Physical Education, Recreation and Health, Prentice Hall, New Delhi.

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**Ph. D (Physical Education)**  
**Paper- II- Data Analysis and presentation**

**External Marks:- 70**

**Internal Marks :-30**

**Time: 3 Hours**

**Note:-** The candidates are required to attempt five questions in all. Nine questions will be set. Question no. 1 (five short questions of two marks each=10) will be compulsory and will be set from the entire syllabus. Eight questions will be set out of 4 units, selecting two questions from each unit. The candidates are required to attempt four questions by selecting one question from each unit. Except question no. 1 all questions carry equal marks.

**Unit-I- Diagrammatic and Graphic Presentation of data**

- i. Rules for drawing diagrams and graphs.
- ii. Meaning of the Graphical presentation and its importance.
- iii. Uses of Graphical presentation in Research.
- iv. Uses of Central tendency in Research.
- v. Uses of Dispersion in Research.

**Unit-II- Normal Probability Curve, Skewness, Movement and Curtosis**

- i. Normal Probability Curve and its Characteristics.
- ii. Implementation of N P C in Research.
- iii. Test and Measures Skewness
- iv. Measures Movement
- v. Measures Curtosis

**Unit-III- Co-relation and Regression Analysis.**

- i. Meaning of co-efficient of co-relation, importance of coefficient of co-relation, calculation of coefficient of co-relation by Rank order method, Product moment methods and Scatter diagram.
- ii. Uses of co-relation in Research.
- ii. Uses of Regression Analysis.
- iii. Different between co-relation and Regression Analysis.
- iv. Multiple co-relation and Regression Analysis
- v. Limitation of Regression Analysis.

**Unit-iv- Testing of Hypothesis**

- i. Procedure of Testing Hypothesis.
- ii. Two tailed and One-tailed test of hypothesis.
- iii. Tests of Significance for Large Samples.
- iv. Tests of Significance for Small Samples.
- v. F-Test and Analysis of Variance

**Reference books :**

- i. Fundamental Statistics in Psychology and Education, Guilford and Benjain in Fruchter, International Edition.
- ii. A Practical Approach to Measurement in Physical Education, Harold M. Barrow, P.E.D. ABD Rosemary Ms. Goc. Ph. And Febigr. Philadelphia, 1979.
- iii. Statistics in Psychology & Education, Henry E. David, Mckey Company, New York.
- iv. Statistical Methods, S.P. Gupta, Sultan Chand and Sons publisers, New Delhi.

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**Ph. D (Physical Education)**  
**Paper-III- (option- i)- Sports Psychology and Sociology**

**External Marks :- 70**

**Internal Marks :-30**

**Time: 3 Hours**

**Note:-** The candidates are required to attempt five questions in all. Nine questions will be set. Question no. 1 (five short questions of two marks each=10) will be compulsory and will be set from the entire syllabus. Eight questions will be set out of 4 units, selecting two questions from each unit. The candidates are required to attempt four questions by selecting one question from each unit. Except question no. 1 all questions carry equal marks.

**Unit-I-**

- i. Definition of Psychology and sports psychology
- ii. Scope of Sports Psychology.
- iii. Methods of Psychology in physical education of sports.
- iv. Importance of Psychology in Physical education of sports.
- v. Adjustment fits various levels, home, family, school, society.

**Unit-II-**

- i. Motivation
- ii. Anxiety of Aggression.
- iii. Learning of theories of learning.
- iv. Individual difference.
- v. Personality.

**Unit-III-**

- i. Meaning & concept of sports sociology.
- ii. Trends in sports sociology.
- iii. Place of sports & games in different societies.
- iv. Relationship of sports with other social institutions, politics, religion and economy.
- v. Socio-Psychology factors in selecting teams, sports and social adjustment. Influence of social factors on sports performance.

**Unit-IV-**

- i. Sociology of sports as a separate discipline.
- ii. Leadership of sports with other element of culture.
- iii. Sports of socialization institutions

**Reference Books :-**

- i. Rouben, B. Frost: Psychological concepts applied to Physical Education and Coaching, Edition, Wesley Publishing Co., London.
- ii. Lawther, John D. : Psychology of Coaching, Englewood Cliffs, Prentice Hall (Latest Edition).
- iii. Gratty, B.J. : Psychological and Physical Activities, Prentice Hall Inc., 1968.
- iv. Morgan, C.T. : Psychological Psychology, New York, McGraw Hill (Latest edition).

v.

Ley, J.W. and  
Kenyan, G.S.: Sports,  
Culture and Society,  
MacMillan Co.

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- vi. Lay, Mepherston and Kenyon: Sports and Society System, Wesley Publishing Co.
- vii. Ball and Lay: Sports and Social Orders, Addison Wesley Publishing Co.
- viii. Puni, A.T.: Sports Psychology, An abridged translation by S.G. Sandhu, NIS, Patiala

**Ph. D (Physical Education)**  
**Paper –III- (Option. ii) –Biomechanics and Sports Training**

**External Marks: 70**

**Internal Marks:-30**

**Time: 3 Hours**

**Note:-** The candidates are required to attempt five questions in all. Nine questions will be set. Question no. 1 (five short questions of two marks each=10) will be compulsory and will be set from the entire syllabus. Eight questions will be set out of 4 units, selecting two questions from each unit. The candidates are required to attempt four questions by selecting one question from each unit. Except question no. 1 all questions carry equal marks.

**UNIT-I**

- i. Definition, meaning, function and importance of biomechanics in physical education and sports.
- ii. Force acting on a system; the properties of a force, reaction force, friction force, centripetal and centrifugal force, resistive and motive force and force diagram and vectors.
- iii. Newton laws of motion and its application in sports.
- iv. Spin, Rebound and Swing
  - a. Spin and its types.
  - b. Effects of spin on speed of the ball on the surface.
  - c. Effects of spin on speed of the ball in flight;

**UNIT-II**

- i. Aerodynamic drag force.
  - a. Effects of streamline on drag
  - b. Effects of body's mass on drag
  - c. The relative contribution of the factors influencing drag
- ii. Effects of drag on the body and objects in following sports.
  - a. Terminal velocity(Freefall)
  - b. Floater volleyball service
  - c. Running
- iii. Balance and equilibrium
  - a. Stable, unstable and neutral equilibrium
  - b. Balance in static position
  - c. Factors effecting stability
- iv. Mechanical principles involved in:
  - a. Walking
  - b. Running
  - c. Vertical jumping

**UNIT-III**

- i. Teaching, Training and Coaching : Meaning, aims & Characteristic
- ii. Principles of Training
- iii. Training Load: Meaning & characteristic of training load
- iv. Principles of Load & Adaptation, Judgment of Load

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- v. Over Load : Causes, Symptoms and tackling of over load.  
**Meaning impotence types and methods of improvement of :-**
- i. Strength
  - ii. Endurance
  - iii. Speed :
  - iv. Flexibility
  - v. Co-ordinative Ability:

**UNIT-IV**

- i. Technical Training : Meaning, Importance of Methods of Technical training
- ii. Tactical Training : Meaning, Importance of Principles of Tactical training
- iii. Planning of training : Meaning of Planning, Importance, Principles Planning of types of Training Plans.
- ii. Periodisation : Meaning and its types, contents for Various of training, General Principles of training schedules.

**REFERENCES BOOKS**

- i. Dyson, G. The Mechanics of Athletics, New York 1978.
- ii. Hay, J. G. Biomechanics of Sports Technique, Englewood cliffs, N.J: Prentice Hall, 1978
- iii. Ellen, Kreighbauni, Biomechanics A qualitative approach of studying Human movement; Macmillan, New York; 1985
- iv. Luttagens, K and Wells, K.F. Kinesiology, Scientific basis of human motion; Philadelphia, 1982
- v. Dick, F.W., Sports Training Principles
- vi. Hardyal- principles of Sports Training, NS NIS, Publication, Patiala
- vii. Bunn J.W- Scientific Principles of coaching, Englewood cliffs prentice Hall
- viii. Shamsheer Singh, An Introduction to Training and Coaching, Friends Publication, New Delhi, 2006.

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(Open Elective course)  
By Physical Education  
For Pre-Ph.D course work students of other Departments  
**Physical Education and its Applications**

**External Marks=30**  
**Internal Assessment-20**  
**Time: one and half hour**

**Note:-** The candidates are required to attempt three questions in all. Five questions will be set. **Question no. 1** (five short questions of two marks each) will be **compulsory** and will be set from the entire syllabus. Four questions will be set out of 2 **units**, selecting **two** questions from each unit. The candidates are required to attempt three questions by selecting **one** question from each unit. Except **question no. 1** all questions carry equal marks i.e. ten marks each.

**Unit-I- Sports Psychology**

- i. Definition of Psychology and sports psychology
- ii. Scope of Sports Psychology.
- iii. Methods of Psychology in physical education of sports.
- iv. Importance of Psychology in Physical education of sports.
- v. Adjustment fits various levels, home, family, school, society.

**Sociology**

- i. Sociology of sports as a separate discipline.
- ii. Leadership of sports with other element of culture.
- iii. Sports of socialization inptitutions

**Unit-II – Bio-mechanics**

- i. Definition, meaning, function and importance of biomechanics in physical education and sports.
- ii Force acting on a system; the properties of a force, reaction force, friction force,
- iii centripetal and centrifugal force, resistive and motive force and force diagram and vectors.
- iv Newton laws of motion and its application in sports.
- v. Spin, Rebound and Swing
  - a. Spin and its types.
  - b. Effects of spin on speed of the ball on the surface.
  - c. Effects of spin on speed of the ball in flight;

**Sports training**

- i. Technical Training : Meaning, Importance of Methods of Technical



- |      |                      |                                                                                                      |
|------|----------------------|------------------------------------------------------------------------------------------------------|
|      |                      | training                                                                                             |
| ii.  | Tactical Training    | : Meaning, Importance of Principles of Tactical training                                             |
| iii. | Planning of training | : Meaning of Planning, Importance, Principles Planning of types of Training Plans.                   |
| iv.  | Periodisation        | : Meaning and its types, contents for Various of training, General Principles of training schedules. |

#### REFERENCE BOOKS :-

- i Rouben, B. Frost: Psychological concepts applied to Physical Education and Coaching, Edition, Wesley Publishing Co., London.
- ii Lawther, John D. : Psychology of Coaching, Englewood Cliffs, Prentice Hall (Latest Edition).
- iii Gratty, B.J. : Psychological and Physical Activities, Prentice Hall Inc., 1968.
- iv Morgan, C.T. : Psychological Psychology, New York, McGraw Hill (Latest edition).
- v Ley, J.W. and Kenyan, G.S.: Sports, Culture and Society, MacMillan Co.

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- i. Dyson, G. The Mechanics of Athletics, New York 1978.
- ii. Hay, J. G. Biomechanics of Sports Technique, Englewood cliffs, N.J: Prentice Hall, 1978
- iii. Ellen, Kreighbauni, Biomechanics A qualitative approach of studying Human movement; Macmillan, New York; 1985
- iv. Luttagens, K and Wells, K.F. Kinesiology, Scientific basis of human motion; Philadelphia, 1982
- v. Dick, F.W., Sports Training Principles
- vi. Hardyal- principles of Sports Training, NS NIS, Publication, Patiala
- vii. Bunn J.W- Scientific Principles of coaching, Englewood cliffs prentice Hall
- viii. Shamsher Singh, An Introduction to Training and Coaching, Friends Publication, New Delhi, 2006.

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