

BHRATHIAR UNIVERSITY, COIMBATORE 641 046

M.Phil., / Ph.D., - Physical Education

PART I – SYLLABUS ( w.e.f 2006-2007 onwards)

PAPER – I Research Methods and Advance Statistics

**Unit – I Fundamental Concepts:**

- 1.1 Research Problem – meaning and identification – statement of research problems – criteria for selection.
- 1.2 Types of research – historical, longitudinal, experimental, philosophical, surveys (case study)etc.
- 1.3 Variables – meaning and identification, dependent, control, intervening variables.
- 1.4 Hypothesis – meaning and importance -- statement of hypothesis -- null hypothesis.
- 1.5 Possible areas of research -- bio-mechanics, kinesiology, exercise physiology, motor learning, sports medicine, sports psychology, sociology of sports, growth and development etc. Agencies promoting research and new trends in Physical Education- ministry of education, U.G.C., Universities, state Governments, SAI and AIU etc.,

**Unit -- II: Research Tools:**

- 2.1 Methods of collecting data – observation, interview, questionnaires and experimentation.
- 2.2 Design and construction of questionnaires, schedules, test, attitude scale and rating scales.
- 2.3 Establishing of research laboratory – Instrumentation.
- 2.4 Concepts and measurement – reliability and validity

**Unit – III: The Research Design:**

- 3.1 Meaning and purpose of research design.

- 3.2 Steps in designing the research procedure – statement of the problem – hypothesis – identification of variables – samples selection of tool – plan of analysis time budget cost – resources – personnel etc.
- 3.3 Preparation of the research report – tables – figures – footnotes – bibliography – follow – up with publication.
- 3.4 Introduction to the use of calculators and computers in analysis of data.

#### **Unit - IV Basic Statistical Concepts:**

- 4.1 Measures of Central tendency and variability
- 4.2 The normal distribution and its uses.
- 4.3 Concepts of sampling distribution and standard error
- 4.4 Testing of hypothesis – comparing two groups- 't' test – type I and II errors – Chi-square test.
- 4.5 Analysis of variance – need for analysis of variance – one way analysis of variance – two way analysis of variance, 'F' test.
- 4.6 Analysis of co-variance.

#### **Unit V Correlation and Regression Methods.**

- 5.1 Meaning of correlation – co-efficient of correlation – Pearson's product moment methods
- 5.2 Further methods of correlation – rank difference method, Biserial, point Biserial, phi-coefficient.
- 5.3 Partial and multiple correlations and regression – meaning and computation limitations to the use of partial and multiple correlation.

#### **Reference books:**

01. "Research Methods Applied to Health, Physical Education, Recreation", by American Associations of Health, Physical, Education and recreation.
02. "Research Methods in Education ", by Crofford.
03. Cambell. B.C. "Form and Style in Thesis Writing".
04. Thorabin.
05. Best John W. " Research in Education 1959", Prentice Hall Inc.
06. Gord, Carter V& Doughless: "Educational, Psychological and Sociological, New

- York, Appleton Century Crafts, 1954.
07. Hillway Tyrans: "Introduction to Research" Boston, Houghton Mifflin Co., 1956.
08. Smith Henry L. "Education Research Principles and Practices"  
Blomington, Indian, Educational Publishers, Inc. 1944.
09. Fruederick, L. "The Elements of Research" New York, Prentice Hall, California  
1950.
10. Neilson N.P. "An Elementary course in Statistics Test and Measurements in  
Physical Tests. Palo Alto, California 1960.
11. Clarke H.W. "Application on Measurement to Health and Physical Education,  
Published by Prentice Hall Inc., 1961.
12. Garrelt E. Hentry: "Statistics in Psychology and Education" Bombay – vakils  
Fuffer and Simons Pvt. Ltd., 1969.
13. Clark H David & Harrison Clarks: "Research Process in Physical Education and  
Health", Englewood Cliffs, New Jersey, Prentice Hall Inc., 1970.
14. Elementary Statistical Methods – Helan M Welker Joseph Lev.
15. Herschel T. Nanuel: "Elementary Principles of Statistics".
16. A.C. Rosender : "Elementary Principles of Statistics".
17. P. Devadas Rajamma; & K.Kulandaivel: "A Handbook of Methodology of  
Research."

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**PART 1 – SYLLABUS ( w.e.f 2006-2007 onwards)**

**PAPER II MODERN TRENDS IN PHYSICAL EDUCATION.**

**UNIT: I PROFESSIONAL PREPARATION:**

- 1.1 Teacher Training Programme in India-Diploma Course, Certificate Course.  
Undergraduate course – Post Graduate Course – Higher Education (Research Degrees) Comparison of Different course contents.
- 1.2 Professional Organizations in Physical Education and sport in India – Germany – Britain – Comparisons of Professional Organisation in India and other countries

**UNIT II: CAREERS IN PHYSICAL EDUCATION AND SPORT AND SCHEMES OF GOVERNMENT (CENTRAL AND STATE):**

- 2.1 Teaching Career – Coaching Career – Fitness and Health related career – Therapy related career – sport careers in media, management and performance.
- 2.2 Assistance for infrastructure for coaching programmes for competitions – for Publications for research laboratories – fellowship -SAI-UGC- State- Corporation.
- 2.3 Avenues of placements – public sector – private sector.

**UNIT III: MODERN FACILITIES AND EQUIPMENTS:**

- 3.1 Types of surface of playgrounds(Track & Field and games) Modern equipments used in various sports events – playing equipments.

**UNIT IV: TALENTS IDENTIFICATION AND TRAINING:**

- 4.1 Main tasks of training – main features of sports training junior training programme principle tasks.
- 4.2 Identification of talent – Pre requisites and conditions for developing talent – Early recognition – screening and selection with performance factors.
- 4.3 Specific characteristics of the anatomic, physiological, psychological and motor Development of children and adults.
- 4.4 Comparative study of various modern training methods.

## **UNIT V: FUTURE OF PHYSICAL EDUCATION AND SPOT:**

- 5.1 Issues and challenges in Physical Education and sports leadership values – public relations.
- 5.2 Future and challenges in Physical Education personnel in organization and administration – in training – in competition.

### **Reference Books:**

- 01. Ducher A Charles “ Functions of Physical Education”.
- 02. Bunna, Joh W “Scientific Principles of Coaching”.
- 03. Hay, James G “ Biomechanics of Sports Techniques”.
- 04. Millor I Doris & Nelson E Richard “Biomechanics of Sports”.
- 05. Winter A David “Biomechanics of Human Movement”.
- 06. O. Willam Daytan “ Sthletic Training and Conditioning.
- 07. F.A.B. Webstar “The Science of Athletics”.
- 08. Ken. Rawlison: “Modern Athletic Training”.
- 09. Morehouse & Basch “ Scientific basis of Athletic Training”.
- 10. Carl E. Klafs & David D Aro cim: “modern Principles of Athletic Training”.
- 11. John Bonn “Scientific Principles of Coaching”.
- 12. J.D Lauther: “Scientific Principles of Coaching
- 13. Government of India reports: Ghothari Commission.
- 14. Government of India reports: Eanwarabai Patel Commission Report on Secondary Education.
- 15. Government of India reports: Sports Policy”.
- 16. University Grants Commission Reports: Development Grants under five year plan.
- 17. University Grants Commission Reports on financial Assistance for Professional Growth.
- 19. Government of India report on structure for college of Physical Education .
- 20. Sports pedagogy by Androvitch 1906 U.S.S.R. Publication.