

Ph.D Course Work Syllabus

Paper I

RESEARCH METHODOLOGY AND STATISTICS

(**Note** : The Full-time & Part-time Ph.D. Scholars with M.Phil. Degree shall be exempted .)

UNIT I

Research : Criteria of locating and selecting a research problem. Hypothesis meaning, types and formulation and research hypothesis. Variables and its types. Fixing the level of significance and degrees of freedom for a research problem. Type I Error and Type II error.

UNIT II

Research Design : Meaning , types , significance and criteria for selecting a suitable research design : Types of design : Quasi experiment, Cross sectional design, longitudinal design, Double blind placebo design, repeated measures design, rotated group design, Independent factorial design, mixed factorial design .
Descriptive Research : Case study, survey method. Construction and standardization of questionnaire.

UNIT III

Mechanism of writing research proposal: report and synopsis. Method of writing abstract and full paper for presenting in a conference and to publish in journals. Chapterization and thesis format. Criteria for establishing research laboratories for specialized subjects.

UNIT IV

Concept and Calculation of Measures of Central Tendency, Measures of Variability, t-ratio (Correlated and Uncorrelated). Product moment correlation, Rank order correlation, Partial Correlation, Multiple Correlation, Prediction and Wherry Dolittle method, Chi Square, Contingency Coefficient.

UNIT V

Concept and Calculation of Analysis of Variance, One way and Two way analysis. Post -hoc test of significance- Scheffe's: HSD method, Newman keuls and Duncan Multiple range test. Concept and Calculation of Analysis of Covariance. Understanding the Concept of Multiple analysis of Covariance .

Reference:

- Clarke David.H & Clarke H, Harrison (1984) Research processes in Physical Education, New Jersey : Prentice Hall Inc.,
- Best, John W. & Kalm James, V.(1980) Research in Education, New Delhi: Prentice Hall of India.
- Clarke, H. Harrison & Clarke David H. (1972) Advanced Statistics, NewJercy: Prentice Hall Inc.
- Garret Henry E & Woodworth,R.S (1958) Statistics in Psychology and Education, Bombay : Allied publication pvt.Ltd.,
- Thirumalaisamy (1998) Statistics in Physical Education, Karaikudi: Senthilkumar publishers.
- Thomson AL,(1986) The Art of Using Computers, Boyd and Frasher Boston: Publishing Co.,
- Jerry R Thomas & Jack K Nelson(2000) Research Methods in Physical Activities, Illnosis : Human Kinetics;
- Craig Williams & Chris Wragg(2006) – Data Analysis and Research for Sport and Exercise Science, London : Routledge Press.
- Paul R kinnear & Colin D Gray (2006) –SPSS 14 Made Simple , New York: Psychology Press.