

UNIVERSITY OF CALICUT
PhD Physical education
PART-1 SYLLABUS (w.e.f 2015-2016 onwards)
PAPER-1 Research method and advanced statistics

UNIT- I Fundamental Concepts:

- a) Research problem- meaning and identification - statement of research problems criteria for selection.
- b) Types of research historical Longitudinal, experimental, philosophical surveys (case study) etc.
- c) Variables meaning and identification, dependent, control, intervening variables.
- d) Hypothesis meaning and importance, statement of hypothesis, null hypothesis.

UNIT-2 Research tool:

- a) Methods of collecting data observation, interview, questionnaires and Experimentation.
- b) Design and construction of questionnaires, schedules test, attitude scales and rating scales.
- c) Establishing of research laboratory - Instrumentation.
- d) Concepts and measurement reliability, validity.

UNIT -3 the research Design:

- a) Meaning and purpose of research design.
- b) Steps in designing research procedure- statement of the problem- hypothesis identification of variables- samples selection of tool - plan of analysis time budget cost- resources, personnel etc.
- c) Preparation of the research report- tables- figures- footnotes- bibliography, follow- up with publication.

UNIT- 4 Basic Statistical Concepts:

- a) Measures of Central tendency and variability.
- b) The normal distribution and its uses.
- c) Concepts of sampling distribution and standard error.


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- d) Testing of hypothesis comparing two groups-'t' test - type I and type errors – Chi-square test.
- e) Analysis of variance- need for analysis of variance- one way analysis of variance, two way analysis of variance. F-test.
- f) Analysis of co-variance.

UNIT-5 Computer applications and its uses:

- a) Uses of computers in physical education and sports research.
- b) Uses of SPSS in physical education- practical's on SPSS
- c) M S office- M S word, M S power point, M S excel and its practical's.
- d) Drawing of graphs and its practical's.

Reference books:

01. "Research Methods applied to health, physical education, recreation" by American Association 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 education 1959" .Prentice al inc.
06. Gord carter V& Doughless" educational Psychological and sociological . newyork, Appleton Century' C'rafts.1954.
07. hillway Tyruns: introduction to Research" boston, hugton, Mifilin C o. . 1956.
08. Smithl henry L" education Research Principles and Practices" Bllomington, Indian, educational Publishers Inc 1944.
09. Fruederick L " The elernents of Research" newyork, Prentic hall, California 1950.
10. Neilson A .P." An Elementary Course in Statistics test measurement in physical tests. Polo Alto. Califonria 1960.
11. Clarke H.W" Application on Measurement to health and Physical education, Published by Prentica Hall inc. 1961.
12. Garrelt E. Hentry "Statistics in Psychology and education" Bombay- vakils fuffer and Simons Pvt.Ltd. 1969.

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Model Question Paper

PhD Pre- Qualifying Examination

Paper 1- RESEARCH METHODS AND ADVANCED STATISTICS

Time: 3 Hours

Max. Marks: 70

A. Answer any two from the following.

SECTION A

1. Types of research
2. Methods of collecting data
3. Hypothesis meaning and importance
4. Sampling and its types

(2X15=30)

B. Write short answers from the following.

SECTION B

1. Meaning of variables
2. What is Validity and reliability
3. Meaning of correlation
4. Meaning and purpose of research design
5. Normal distribution and its uses
6. Steps of preparing thesis
7. Measures of central tendency
8. Explain bibliography

(8X5=40)

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