

Syllabus

Ph.D. Entrance Examination

Sikkim Manipal University

Research Methodology and Statistics

UNIT 1: Meaning of Research

Meaning, aims, nature and scope of research

Prerequisites of research

Types of research: Fundamental or Pure research, Applied research and Action research.

UNIT 2: Research Problem

Meaning of research problem

Sources of research problem

Characteristics of a good research problem

Hypothesis: Meaning and types of hypothesis.

Research proposal or synopsis.

UNIT 3: Methods of Research Studies

Qualitative research - Historical studies

Quantitative research - Descriptive and Experimental

Unit 4: Review of Related Literature

Purpose of the review.

Identification of the related literature.

Organizing the related literature.

UNIT 5: Data Collection (Sampling)

Sampling and Population

Techniques of sampling Selection

Characteristics of a good sample

Types of data.

UNIT 6: Tools of Data Collection

Observation, Interview, Questionnaire, Rating scales, Attitude scales, Schedules,

Characteristics of good research tools.

UNIT 7: Descriptive Statistics

Tabulation, Organization, and Graphical Representation of Quantitative data

Measures of Central Tendencies: Mean, Median, Mode

Measures of Variability: Range, Quartile Deviation, Standard Deviation, and Coefficient of variation.

Normal Probability Distribution: Properties of normal probability curve, Applications of normality.

Divergence from Normality: Skewness and Kurtosis

UNIT 8: Research Report

Format of the research report

Style of writing the report

References and bibliography

Reference books:

1. Best John W. and James Kahn, V., 1989, Research in Education, Sixth Edition, Prentice-Hall of India Pvt.Ltd, New Delhi.
2. Sharma R.A., 1992, Fundamentals of Educational Research, Loyal Book Depot, Meerut, UP, India.
3. Kulbir Singh Sidhu, 1990, Methodology of Research in Education, Sterling Publishers Pvt. Ltd., New Delhi.
4. Lokesh Koul, 1997 Methodology of educational Research, third edition, Vikas Publishing House Pvt. Ltd. , New Delhi.
5. Kothari C.R., 1990, Research Methodology Methods and Techniques, Wiley Eastern Limited, New Delhi.
6. Borg Walter R., Gall Meridith D., 1983, Educational Research an Introduction, Fourth Edition, Longaman, New York & London.
7. Nitko Anthony J., 1983, Educational Tests and Measurement an Introduction, Harcourt Brace Jovanovich, Inc., New York.
8. Aggarwal Y.P., 1988, Statistical Methods Sterling Publishers Pvt. Ltd., New Delhi.
9. Garret Hnery E., 1985 Statistics in Psychology and Education, Viakils, Feffer and Simon, Bombay.
10. Guilford, J.P., and Benjamin Fruchter, 1982 Fundamentals of statistics in Psychology and Education, Fifth edition, Mc Graw-Hill Book Company, New York.
11. Gupta S.C. and Kapoor V.K., 1999, Fundamentals of Mathematical Statistics, Sultan Chand & Sons Educational Publishers, New Delhi.
12. Grewal P.S., Methods of Statistics Analysis, Sterling Publishers Pvt. Ltd., New Delhi.
13. Bruce W. Tuckman, Statistics in Psychology and Education.