

**MAHARAJA GANGA SINGH UNIVERSITY, BIKANER**  
**Ph.D. COURSE WORK IN EDUCATION**

**Unit I**

- (a) Educational Research : Definition, need and importance, classification, fundamental, applied and action research, Scientific method in Educational Research.
- (b) Selection of research problem, areas of research identification and statement of research problem.
- (c) Survey of research literature.
- (d) Hypothesis – Definition, types and importance.
- (e) Sampling – Need of sampling, non-probability samples, probability sample. Sampling error.

**Unit II**

- (a) Tools : Psychological tests, observations, questionnaire interviews, rating scales, attitude scales (Thurston scale and Likert's scale).
- (b) Reliability and Validity, Types of Validity.

**Unit III**

Methods of Research:

- (a) Historical Research : Meaning, steps with emphasis on internal and external criticism.
- (b) Descriptive Research : Meaning, types with special reference to surveys, correlation, longitudinal and cross-sectional studies.
- (c) Experimental Research : Meaning, steps and threats to internal and external validity.

**Unit IV**

- (a) Experimental designs : Post test control group design, pre test –post test control group design, factorial designs, quasi-experimental designs.
- (b) Qualitative Research : Meaning, case study.
- (c) Research proposal and research report.

**Unit V**

Measures of Central Tendency, variability and graphical representation of data.

- (a) Measures of relationship, Rank order correlation, product moment methods of correlation.
- (b) Normal probability curve and its applications.
- (c) Significance of statistics and significance of difference between statistics.
- (d) Analysis of variance (one way only).
- (e) Chi-square test.

**Books Recommended:**

1. Best, J.W. (1995) & Kahan, J.V. – Research Education, Prentice Hall of India Pvt. Ltd., New Delhi.
2. Edwards, A.L. (1960) – Experimental Design in Psychological Research, New York, Holt's (revised Ed.).
3. Ferguson, G.A. and Takane Yoshio (1989) – Statistical Analysis in Psychology and Education.
4. Garrett, H.E. (1986) – Statistics in Psychology and Education, Vikas Feffers and Simmons Pvt. Ltd.
5. Kaul Lokesh (1984) – Methodology of Educational Research, Vikas Publishing House Pvt. Ltd., New Delhi.
6. Sukhiya, S. P. : Melhotra P.V., Elements of Educational Research, New Delhi, Allied Publishers.
7. Tuckman, B.W. (1972) – Conducting Educational Research, Harcourt Brace, Javanovich.
8. Verma, An Introduction to Educational and Psychological Research, Bombay, Asia Publishing House.
9. Lindquist, E.F. (1960) – Elementary Statistical Methods in Psychology and Education, Oxford Book Company, New Delhi.
10. Sharma, A.R. (1984) Fundamentals of Educational Research, Loyal Book Depot, Meerut.