MEWAR UNIVERSITY

NAAC 'A' GRADE ACCREDITED UNIVERSITY

Detailed Syllabus

Paper-I: Research Methodology

1. **Introduction to Research Methodology:** Meaning of Research, Objectives of Research, Motivations in Research, types of Research, Research Approaches, Significance of Research, Research Methods v/s Methodology, Research and Scientific Methods, Research Process, Criteria of good research and ethics in research.
2. **Defining the Research Problem:** Concept and need, Identification of Research problem, defining and delimiting Research problem.
3. **Research Questions and Hypothesis:** Variables and their linkages, characteristics of good Hypothesis. Research question and formulation of hypotheses-directional and non-directional hypotheses, Basis for hypotheses, Design of hypothesis based on deeper ROL by focusing on the citation of relevent researches.
4. **Research design:** Meaning, Need, Features of Good Design, Concepts, Types. Basic principles of Experimental Design, various methods of Research. Survey, Philosophical, Historical, Experimental, Causal Comparative, Genetic, Case Studies.
5. **Tools for Data Collection:** Collections of Primary Data, Collection of Data through questionnaire and Schedules, other Observation Interview Methods, Collection of Secondary Data, Selection of appropriate method for data collection, Case Study, Focus Group Discussion, Techniques of developing research tools, viz. Questionnaire and rating scales etc. Reliability and validity of Research tools.

   a) **Sampling:** Probability and Non Probability sampling- types and criteria for selection. Developing sampling Frames, Determination of sample size by using statistical formula.

   b) **Descriptive Statistics:** Measurement Scales, Sources of error in measurement. Measures of central Tendency (Mean, medium, Mode), Measures of dispersion (range, mean deviation, standard deviation) Graphical representation of Data.
6. **Inferential statistics:** Normal Probability Curve- Meaning, characteristics and applications. Standard error. Confidence Interval sand Fiduciary limits. Type 1 and Type II errors. Estimating Population Means.

a. Correlations: Rank Difference Method Pearson's Product Moments Correlation Significance of correlation. Concept of Variance. Other methods of Correlation (Concept and application only)- Partial and Multiple correlation Biserial, Point Biserial, tetra choric and Phi correlation. Regression and Multiple Regression equations (concept and applications)

b. Sampling Distribution, Null Hypothesis- Alternative Hypothesis. Testing the Significance of difference between means(z and 't' test)

c. Analysis of Variance (ANOVA) and Analysis of covariance (ANCOVA) concept and applications only.

d. Factor Analysis and Path Analysis (concept and applications).

7. **Non Parametric Statistics:** Wilcoxon Test- steps, characteristics and application, Sign Test, man- Whitney u Test, Chi Square test- steps, Characteristic sand applications. Relationship between chisquare and phi correlation.
8. **Logic:** Logical form, deductive and inductive reasoning, consistency, validity, soundness and completeness, western and oriental conception of logic.
9. **Writing Research Report:** Format and style. Review of related literature its implications at various stages of research. (Formulation of research problem, hypothesis, interpretation and discussion of results). Major findings, Conclusions and suggestions. Citation of references and Bibliography.
10. **Preparation of Research Synopsis:** Title, Preface, Abstract, Introduction, Geographical location, Objective, Hypothesis, Methodology-Time frame and work plan, Proper chapterization, References, Biblography etc.

Reference Books:

a) Best and Kahn, Research Methodology, PHI Limited.

b) Kothari, C.R. Research Methodology (Methods and Techniques), New Age Publisher.

c) Kerlinger, Foundation of Research.

d) Fundamentals of modern statistical methods by R and R. wilcox.

e) Power Analysis for Experimental research A Practical Guide for the Biological, Medical and social Sciences by R. Barker Bausell, Yi-Fang Li Cambridge University Press.

f) Design of Experience: Statistical Principles of Research Design and Analysis, by Robert O. Kuehl Brooks/cole.