

Department of Fashion and Apparel Design

RESEARCH METHODOLOGY

UNIT – I: Fundamentals of Research

Meaning, need, and scope of research. Characteristics of research, the distinction between scientific and non-scientific inquiry, and identifies what is not a characteristic of research. Research process, formulation of the research problem, and the meaning and role of a hypothesis as a tentative, testable statement. Types of research like basic, applied, exploratory, descriptive, and diagnostic, with emphasis on applied research for solving practical problems and basic research for theory generation.

UNIT – II: Research Designs, Sampling & Experimental Principles

Theoretical and applied aspects of probability and non-probability sampling techniques used in research. Probability sampling methods such as simple random sampling, systematic sampling, stratified sampling, and cluster sampling are studied in relation to sampling frame requirements, sampling distribution properties, sampling error estimation, and external validity. Non-probability methods including convenience sampling, purposive sampling, quota sampling, snowball sampling, and respondent-driven sampling with respect to selection bias, non-sampling error, representativeness issues, and limitations in generalization.

UNIT – III: Statistical Methods for Research

Measures of central tendency, mean, median, mode and Karl Pearson's relationship between them. Concepts of range, illustrated by the highest minus the lowest value, and variability are covered. Inferential statistics include the chi-square test with its minimum sample size requirements, hypothesis testing, and understanding Type I and Type II error.

UNIT – IV: Interpretation & Report Writing

Interpretation of results in relation to objectives, Avoiding bias and ensuring clarity during interpretation, Logical flow and sequencing in report writing, Inductive and deductive development of topics, Structure and components of a formal research report, Writing discussion and conclusions effectively, Use of tables, charts, and figures in reporting, Academic tone and clarity in presentation, Referencing styles (APA/MLA/Chicago) and citation accuracy, Formatting, editing, and proofreading for final submission.

Recommended Reference Books for Research Methodology

1. C. R. Kothari & Gaurav Garg
Research Methodology: Methods and Techniques
New Age International Publishers
2. Ranjit Kumar
Research Methodology: A Step-by-Step Guide for Beginners
SAGE Publications