

MCM-102 STATISTICAL ANALYSIS AND RESEARCH METHODOLOGY

Course Objective: The objective of the course is to acquaint students with important statistical techniques and quantitative models for managerial decision making and conduct research and process data.

Block-1	Sampling and Sample Design
Unit-1	Introduction and Types of Sampling
Unit-2	Sampling Methods
Unit-3	Point Estimation and Interval Estimation
Unit-4	Sampling and Non-Sampling Errors
Block-2	Probability and Theoretical Distribution
Unit-5	Approaches to Probability
Unit-6	Theorems of Probability
Unit-7	Binomial and Poisson Distribution
Unit-8	Exponential, Beta & Normal Distribution
Block-3	Hypothesis Testing and Significance Tests in Attributes & Variables
Unit-9	Procedure of Testing a Hypothesis
Unit-10	Significance Test in Attributes
Unit-11	Significance Test in Variables (Large Samples)
Unit-12	Significance Test in Variables (Small Samples)
Block-4	Regression, Correlation and Statistical Quality Control
Unit-13	Partial & Multiple Correlation
Unit-14	Multiple Regression Analysis
Unit-15	Types and Techniques of Statistical Quality Control
Unit-16	Control Charts for Attributes and Variables
Block-5	Non Parametric Tests and Analysis of Variance
Unit-17	Chi-Square Test
Unit-18	Sign Test & Median Test
Unit-19	F Test / Multivariate Analysis Technique
Unit-20	Analysis of Variance (ANNOVA)
Block-6	Research Methodology
Unit-21	Concepts, Approaches and Methods
Unit-22	Research Design
Unit-23	Measurement and Scaling Techniques
Unit-24	Interpretation, Report Writing & Computer Applications in Research

Suggested Readings:

1. S. P. Gupta, Statistical Methods, Sultan Chand & Sons.
2. C.R. Kothari, Research Methodology Methods and Techniques, 2/e, Vishwa Prakashan.
3. Bendat and Piersol, Random data: Analysis and Measurement Procedures, Wiley Interscience.
4. D.C. Sancheti, V.K. Kapoor, Statistics, Theory methods and Application, Sultan Chand & Sons.
5. S C Agarwal, S C Khurana, Research Methodology and Statistical Analysis(for M. Com), V K Publications.
6. Kenneth S Bordens, Bruce B Abbott, Research Design and Methods: A Process Approach, Mayfield Pub. Co.