

# Teaching Lesson Plan

## Semester-VII

### MJ 17: ADVANCE STATISTICAL ANALYSIS

Lecture hours: 60

**OBJECTIVES:** To equip students with some of the important statistical techniques for managerial decision making and to provide ground for learning advanced analytical tools used in research.

SN	Subject and Objectives	Lectures Hrs	Methodology	Evaluation Mode
<b>Unit-I</b>	<b>Univariate Analysis</b>	<b>12Hrs</b>		
	An overview of Measures of Central Tendency, Dispersion and Skewness.	12	PPT, Illustrations	Q & A, Assignments
<b>Unit-II</b>	<b>Correlation and Regression Analysis</b>	<b>12Hrs</b>		
	Simple, multiple, and partial correlation analysis. Rank correlation. Simple and Multiple linear regression analysis (involving up to three variables).	12	PPT, Illustrations	CIA
<b>Unit-III</b>	<b>Theory of Probability and Probability Distributions</b>	<b>12Hrs</b>		
	Approaches to calculation of probability. Addition, multiplication and Conditional probabilities, Bayes' theorem. Mathematical expectation. Binomial, Poisson, Hypergeometric, and Normal Distribution.	12	PPT, Illustrations	Q & A, Assignments
<b>Unit-IV</b>	<b>Sampling Theory and Test of Significance</b>	<b>12Hrs</b>		
	Sampling concepts. methods of sampling. Concept of sampling distribution, Its expected value and standard error, Utility of the Concept of Standard Error, Sampling distribution of means and Central Limit Theorem. Test of Significance for Attributes, Tests of Significance for Large Sample, Test of Significance for Small Samples, Student's Distribution	12	PPT, Illustrations	Q & A, Assignments
<b>Unit-V</b>	<b>Analysis of Variance</b>	<b>12Hrs</b>		
	Introduction, Assumption, Uses and Technique of Analysis of Variance. F-test of equality of variances. Overview of Chi-square. Chi-square of Goodness of fit, Chi-Square test for Independence, Chi-Square as a test of homogeneity, Limitation in the use of Chi-Square test	12	PPT, Illustrations	Q & A, Assignments

#### Reference Books:

1. Levin, R.I. and D.S. Rubin, Statistics for Management, Prentice-Hall of India.
2. Aczel, Amir D., and Sounderpandian, J., Complete Business Statistics, Tata McGraw Hill Publishing.
3. Anderson, Sweeny and Williams, Statistics for Business and Economics, CENGAGE Learning, New Delhi
4. Kazmeir Leonard J., Business Statistics, Tata McGraw Hill Publishing Company, New Delhi

5. Vohra, N. D., Business Statistics, Tata McGraw Hill Publishing Company, New Delhi
6. Mrityunjay Kumar, Advance Statistical Analysis, Agra (U.P.), Shiksha Sagar Publisher and Distributors.
7. Freund, J. E. And F. J. Williams, Elementary Business Statistics – The Modern Approach, Prentice Hall of India Private Ltd., New Delhi.

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