

## **MT - 214 Applied Statistics**

**INTRODUCTION:** Definition, Population and Sample, Descriptive Statistics & Inferential Statistics, Statistics Applications in Business Management.

**MEASURES OF CENTRAL TENDENCY AND DISPERSION:** Statistical Averages Mean, Median, Mode, Empirical Relation between Mean, Median and Mode. Five point Summary Measures, Range, Mean Absolute Deviation, Variance, Standard Deviation, Coefficient of Variation.

**PROBABILITY THEORY:** Basic Concepts of Probability, Conditional Probability, Bayes' Theorem.

**MATHEMATICAL EXPECTATION:** Properties of Expectation, Expected Value, Expected Monetary Value, Decision Criterion Utility & Expected Utility.

**RANDOM VARIABLE AND PROBABILITY DISTRIBUTIONS:** Random variables, Discrete & Continuous Probability Distributions, Binomial Distribution, Poisson Distribution, Normal Distribution and their applications.

**INDEX NUMBERS:** Definition, Simple and Composite Index Numbers, Fixed-Base and Chain-Base Methods, Weighted & Un-weighted Aggregates Index, Average of Relative Methods. Test for Index Number.

**TIME SERIES ANALYSIS:** Introduction to Time Series, Components of Time Series, Time Series Decomposition, Semi- Averages and Moving Averages Techniques, Time Series Analysis in Forecasting.

**SIMPLE REGRESSION & CORRELATION:** Scatter Diagram, Linear Correlation, Rank Correlation, Principle of Least Squares, Simple Linear Regression line