Syllabus – Quantitative Methods

Course Code: COM0231   **Credit - 6**

Module 1: Progression and Index Numbers:

Unit 1: Progressions: Arithmetic Progression (A.P) and Geometric Progression (G.P) Permutation and combination

Unit 2: Index number- Meaning and uses of index numbers- construction of index numbers, Aggregative index numbers, Average of Relatives Index Numbers, Simple & weighted; Value, Index number, Consumer Price Index Number.

Module 2: Statistics

Unit 1: Statistics: Relevance, Introduction and definition-Phases of statistical study-Scope and limitations-Application of statistics in various areas-Types, sources and collection of data-Presentation of data- charts and graphs- frequency distribution.

Unit 2: Descriptive statistics: Measures of Central Tendency: Mean, Median and Mode- Measures of Dispersion: Range, Quartile deviation, Mean deviation, Standard, Deviation-Variance and Coefficient of variation - Skewness and Kurtosis.

Module 3: Correlation & Regression Analysis

Unit 1: Correlation, Types of Correlation- Scatter diagram- Karl Pearson's Co-efficient of Correlation-Spearman's Rank Correlation Co-efficient- Correlation and causation- Probable error.

Unit 2: Regression Analysis - Lines of Regression, Regression Equations and regression co-efficient, Relationship between correlation and regression coefficients, Standard error of estimate-Application of correlation and regression in business data analysis

Module 4: Probability & Theoretical distribution

Unit 1: Concept of probability –meaning and definition-approaches to probability-Theorems of probability-addition theorem-multiplication theorem (Statement only)- conditional probability-inverse probability- Baye's theorem.

Unit 2: Theoretical Distributions: Binomial distribution-basic assumptions and characteristics-simple problems-Poisson distribution –characteristics- simple problems-Normal distribution-features and properties-standard normal curve.

Module 5: Testing of hypothesis

Unit 1: Population and Sample- Sampling Methods-Testing of hypothesis-Procedure-error in testing-two tail tests and one tail tests-Confidence level- nonparametric tests (Chi-square test only). Parametric tests -Z test- test of significance of large samples-test for two sample means- small sample mean tests-Students t test-Analysis of variance-F-test-one-way ANOVA