Syllabus

QUANTITATIVE METHODS

M.Com (MG)

2019 admission onwards

Module 1- Introduction to Quantitative Techniques and Probability Distributions:

1.1 Quantitative Techniques – Meaning – classification – Application of QT in business, industry and management – Merits and Limitations of QT.

1.2 Probability distributions- Binomial Distribution- features- assumptions- constants- Problems- Fitting of distribution.

1.3 Poisson Distribution- Characteristics- assumptions- Constants- usefulness- Fitting.

1.4 Normal distribution- Characteristics- Importance- Standard normal curve- properties of standard normal curve.

1.5 Measurement of probability based on area under standard normal curve- Fitting of normal distribution- Normal approximation to binomial and poisson distribution.

Module 2- Statistical inference

2.1 Sampling and non-sampling errors- Statistic and parameter- Sampling distribution- Standard error, central limit theorem.

2.2 Theory of Estimation - Point estimate, Interval estimate- Statistical inference- Test of hypotheses- procedure - type 1 error-type II error.

2.3 Parametric tests - Z test -features- conditions to be satisfied application of Z test- test for means, test for standard deviation.

2.4 t test – characteristic – conditions – utility - t test for means.

2.5 Test for proportions, Paired t test.

2.6 Testing the significance for correlation coefficient, z transformation.

2.7 Confidence limit for mean and proportion.

2.8 F test - applications.

2.9 Analysis of Variance – applications – conditions to be satisfied – One way and two way ANOVA.

Module 3- Non- parametric tests

3.1 Non parametric tests – meaning – applications – Chi square test – applications – Goodness of fit- Independence of attributes- Homogeneity- Population variance.

3.2 Sign test – applications - One sample sign test - Paired sample sign test.

3.3 Run test- Mann Whitney U test, Kruskal Wallis H test.

Module 4- Statistical Quality Control

4.1 SQC meaning – scope – applications -advantages and limitations- Techniques of SQC – Types of control.

4.2 Control charts for variables - X chart, R chart. Theory and Problems

4.3 Control chart for attributes 'p' chart, 'np' chart and 'c' chart.

4.4 Sampling Inspection Plan- Types- Producer risk and consumer risk

Module 5 – Introduction to Multivariate Analysis

5.1 Multi-variate analysis- Meaning and Objectives – Variables in multi variate analysis

5.2 Important multivariate techniques- (Overview and theory only) Multiple regression, Multiple discriminant analysis- MANOVA, Factor analysis.