

Syllabus

Panjab University, Chandigarh

Quantitative Methods for Business

M.Com., Semester-I

Note: The examiner will set two questions from each unit and the candidates are required to attempt five questions in all selecting at least one question from each unit.

Unit-I

Probability and Probability Distribution: Definitions, Probability Rules, Application of Probability Rules, Conditional Probability, Bayes theorem- Random Variable and Probability Distributions; Binomial Distribution, Poisson Distribution and Normal Distribution.

Unit-II

Statistical Estimation and Hypothesis Testing: Introduction to Hypothesis testing – Meaning of Population, sample and sampling distribution – parameters and statistics – Central limit theorem – Concept of Standard Error – Confidential limits – Estimation of population parameters – properties of a good estimator – Point and interval estimation – Hypothesis Formulation and testing procedure – Type I and Type II errors – one tail and two tail tests – Sampling of Attributes – Estimation and testing Number and Proportions of Successes, Difference between two proportions.

Unit-III

Sampling Variables: Large Samples – Difference between large and small samples – Estimating population mean – testing the significance of Mean – Significance of the difference between means of two samples – Significance between the standard deviations of two samples – Small Samples – 't' test – fixing fiducial limits to population mean – testing the significance of the mean – testing the significance of the difference between two independent means, testing the significance of the difference between two dependent means F test – meaning – Applications of F test – ANOVA – Assumptions, Procedure, one way and two-way analysis of variance.

Unit-IV

Statistical Quality Control: Introduction – Chance and Assignable Causes of Variation Uses of SQC – Process Control and Product Control – Control Charts – Control Charts for Variables – X – Chart, Range chart, Standard deviation chart, Control charts for attributes – C chart-p chart-np chart. Decision Tree Analysis – Decision Making under Uncertainties.