

CMH404: BUSINESS STATISTICS

Work load: 3 hours lecture and 2 hours tutorial per week: total 4 credits

Learning Objective:

- To enable the students to acquire knowledge on quantitative analysis and to use statistical techniques for analysis of business data.

Course Outcomes:

1. Provides an understanding of the basic statistical concept and techniques for undertaking business research.

Unit -1: Indices, Surds and Binomial Theorem: Laws of Indices and Surds, Operation with Power Functions, Operation on Surd, Rationalising Factor, Root of a Mixed Surd, Binomial Theorem, Position of Terms, Binomial Coefficients.

Unit -2: Arithmetic and Geometric Progressions: Arithmetic Progression (AP), Sum of a Series in AP, Representation of Terms in AP, Geometric Progression (GP), Sum of a Series in GP, Representation of Terms in GP.

Unit -3: Time Series Analysis: Meaning, Components, Measurement of Trend, Measurement of Seasonal Variations, De-Seasonalisation of Data, Measurement of Cyclical Variations.

Unit -4: Probability, Random Variables and Theoretical Distributions: Terminology, Schools of Thought on (Approaches to) the Concept of Probability, Permutation and Combination, Theorems of Probability Conditional Probability, Bayes's Theorem, Calculation of Probability, Meaning of Random Variable, The mean of a Random Variable/ The expected Value of a Random Variable, Binomial Distribution and Fitting a Binomial Distribution, Poisson Distribution and Fitting a Poisson Distribution, Normal Distribution and Fitting a Normal Curve.

Unit -5: Statistical Quality Control (SQC): Meaning, Causes of Variation in Quality, The Purpose, Advantage, Theory and Technique of SQC, Process Control: Mean (\bar{X}) Chart; Range (R) Chart; Fraction (P) Defective Chart; Number Defective (np) Chart; and Number Defective Per Unit (C) Chart.

References:

1. Ajay Goel, Alka Goel: Mathematics and Statistics (New Delhi:Taxmann)
2. Asthana B.N: Elements of Statistics (New Delhi: S.Chand)
3. Elhance D.N: Fundamentals of Statistics (Allahabad: KitabMahal)
4. Gupta S.C: Fundamentals of Statistics (Mumbai: Himalaya PublishingHouse)
5. Gupta S.P: Statistical Methods (New Delhi: Sultan Chand & Sons)
6. Kothari C.R: Quantitative Techniques (New Delhi: Vikas)

7. Levin RI and Rubin DS: Statistics for Management (New Delhi: Prentice Hall of India)
8. Render B and Stair, RM Jr.: Quantitative Analysis for Management (Boston: Allyn & Bacon, Inc.)
9. Sancheti DC and Kapoor VK: Business Mathematics (New Delhi: Sultan Chand & Sons)
10. Thukral J.K: Mathematics (New Delhi: Taxmann)

