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Title: Statistics for Business Decisions   Code: MGMT 515
Credit Hours: 3   Year /Semester: I/I   48 Hours

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Course Objectives:

The basic aim of this course is to impart knowledge of basic statistical tools & techniques with emphasis on their application in business decision making process for efficient and effective management.

Unit 1 Introduction   5 Hours

Concept of Statistics and its Significance and Limitations, Collection of Primary and Secondary Data, Classificationa and Tabulation, Frequency Distributions and Their Graphical Representation

Unit 2 Measures of Central Tendency   6 Hours

Mean, Median and Mode, Measures of Dispersion: Range, Mean Deviation, Standard Deviation and Quartile Deviation. Moments, Measures of Skewness and Kurtosis

Unit 3 Linear Programming   7 Hours

Formulation, Graphical and Simplex Method, Duality

Unit 4 Probability   7 Hours

Classical, Relative and Subjective Probability, Additive and Multiplicative rules; Conditional Probability and Bayes' Theorem, Random Variable, Mathematical Expectation, Binomial, Poisson and Normal probability distributions

Unit 5 Decision Theory   7 Hours

Decision under Certainty, Uncertainty and Risk, Decision Tree analysis Game Theory - Pure and Mixed strategies, Dominance and Algebraic Methods

Unit 6 Sampling   10 Hours

Methods of Sampling; Sampling and Non-Sampling Errors; Law of Large Numbers and Central Limit Theorem (without proof) Estimation, Point & Interval Estimates, Confidence Intervals, Statistical Testing-Hypothesis and Errors; Large and Small One Sample and Two Sample Tests - Z test, t -Test and F-Test, Chi-Square as a Test of Independence and as a Test of Goodness of Fit, Analysis of Variance

Unit 7 Correlation and Regression Analysis   6 Hours

Two variable case / Index Numbers; Time series - Its Components and Their Determination

Reference Books:

1. Ken Black (2009) *Business Statistics: for Contemporary Decision Making*, 5th edition, Wiley-India.
2. Barry Render, RM Stair, ME Hanna and TN Badri (2009) *Quantitative Analysis for Management,* 10th edition, Pearson Prentice Hall.
3. Richard Levin and DS Rubin (2009) *Statistics for Management,* 7th edition, Pearson Education
4. Gupta, S.P. & Gupta M.P. (2009) *Business Statistics,* 15th edition, Sultan Chand and Sons.