Course code: BMGT E2045

Title: Statistics for Management

Aim: To; (i) introduce the statistical concepts and methods for solving real business problems,

(ii) enhance the knowledge of statistics in business management,

(iii) develop analytical skills, and the ability to use statistical techniques for solving real business problems.

Learning Outcome*:*

On completion of this course unit, students should be able to:

- Identify the various statistical techniques available for analyzing data
- Describe and explain how to make business decisions under uncertainties
- Demonstrate the skills of analyzing and interpreting data related to business management
- Apply descriptive and inferential techniques to research work in business and other related fields

Content:

Nature and scope of statistics; Statistic and Business Decisions Statistical Data, Types of statistical Data. Collection of Data; Sources of data- Primary and Secondary, Methods of collecting Data, Sample Investigation, Designing Questionnaires. Organization and Presentation of Data; Classification of Data, Raw Data, Frequency Distribution, Table as a Data presentation Medium, Presentation of Data through Graphs, Histogram, Cumulative Frequency curve. Data Analysis; Measures of Central Tendency(Mean, Median,Mode), Positional Values, Geometric Values, Harmonic Mean. Measures of Dispersion; Range, quartile Deviation, Median

Deviation, Variation and Standard Deviation, Integrated Variations, Comparisons ofdifferent measurements, Lorenz curve. Skewness and Kurtosis; Skew ness; Kurtosis. Basic Probability; Defining Probability, Sample Space and Events, Basic Rules of Probability, Permutation and Combination, Bayer'sTheorem. Random numbers and Probability Distributions; Random Numbers, Discrete random Probability Distributions (Uniform, Binomial,Hypergeomatric, Poison Distributions), Continuous random Probability Distributions (Uniform, Normal Distributions).Sampling and Sampling Distribution; Introduction, Sampling Distribution of the Sample Mean, Sampling Distribution of the sample Variance, Sampling Distribution of the Sample Proportion, Sampling Distribution of the difference between two sample proportions. Introduction to Statistical inference; Estimation, hypothesis Testing, Significance Test. Chi- Square Test-Correlation Analysis; Scatter Diagram, Co-relation Coefficient; Significance of Co-relation; Rank Co-relation Co-efficient. Regression Analysis; Linear Regression, Least Square Method, Standard Error, Co-efficient of Determination. Time Series Analysis; Components of a Time Series, Trend Analysis, Cyclical Variation,Seasonal Variation, Irregular Variation.Indexes; Basic Requirement of Indexes; Developing Indexes; Problems in using Indexes.

Method of Teaching and Learning:

Lectures, Seminars

Scheme of Evaluation:

Examination, Assignments

Recommended Readings:

Anderson, D.A., Sweeney, D.J., Williams, T.A. (2011). *Statistics for Business and Economics*, **(**11th Edition) Boston: South western College pub.

Bowerman B.C., O'Connel R., Murphree E. S, Orris J.B.(2012). *Essentials*

of Business Statistics, New York: Mc Graw Hill.

Kzmier, L.J. (2009). *Business Statistics*, **(**4th Edition) New Dilhi: Mc Graw Hill

Lind, D.A. (2011). *Statistical techniques in Business New Economics, (*15th Edition) New York : Mc Graw Hill.

Weieri, R.M. (2010). *Introduction to Business Statistics***, (**7th Edition) Cengage learning, Toebben Drive.