

QTTM509:RESEARCH METHODOLOGY-I

L:2 T:1 P:0 Credits:2

Course Outcomes: Through this course students should be able to

- CO1 :: Compute numerical descriptive measures for a given data set
- CO2 :: Apply the concepts of dispersion to solve the business problems
- CO3 :: Interpret and evaluate the outcome of statistical analysis
- CO4 :: Apply regression analysis for estimation and inference of business statistics
- CO5 :: Analyze the time series data in order to do demand forecasting
- CO6 :: construct tables and graphs to format, organize and interpret business data

Unit I

Statistics : Types of statistical methods, importance and scope of statistics in business decisions, types of data

Data Classification, Tabulation and Presentation : classification of data, bases of classification, tabulation of data, objectives of tabulation, parts and types of tables, diagrammatic presentation of data

Unit II

Measures of Central Tendency : mean, median, mode, quartiles, percentile, deciles

Dispersion : significance of measuring dispersion, range, standard deviation, coefficient of variation, Concept of outlier

Unit III

Skewness : meaning and significance of skewness in business decisions, Karl Pearson's coefficient of skewness, Bowley's coefficients of skewness

Kurtosis : measures of Kurtosis and their implication in business decisions

Unit IV

Correlation Analysis : Meaning, Karl Pearson's coefficient of correlation, rank correlation, multiple correlation, partial correlation

Regression Analysis : concept of simple linear regression, multiple regression, estimation of coefficients, basic of non-linear regression

Unit V

Index Numbers : types of an index number, uses of index number, methods of construction, un-weighted vs weighted price indexes, consumer price indexes, problem in the construction of index number

Unit VI

Forecasting and Time Series Analysis : types of forecasts, timing of forecasts, forecasting methods, objectives of time series forecasting, steps of forecasting, time series analysis,, time series decomposition models, quantitative forecasting methods

Text Books:

1. BUSINESS STATISTICS by J K SHARMA, VIKAS PUBLISHING HOUSE

References:

1. FUNDAMENTALS OF STATISTICS by S.C. GUPTA, HIMALAYA PUBLISHING HOUSE PVT. LTD
2. BUSINESS ANALYTICS: DATA ANALYSIS AND DECISION MAKING by S. CHRISTIAN ALBRIGHT AND WAYNE L. WINSTON, CENGAGE LEARNING
3. BUSINESS STATISTICS USING EXCEL by R. PANNEERSELVAM, SAGE PUBLICATIONS

