

# 17MB235-ESSENTIALS OF BUSINESS ANALYTICS

## Course Objective

This course provides students the fundamental concepts and knowledge needed to understand the emerging role of business analytics in organizations and enable students how to apply essential tools in a spreadsheet environment. Emphasis is on business applications, concept development and effective interpretation of models and results, rather than theory and calculations. Students use a computer software package for data analysis.

## Course Outcomes:

At the end of the course the student is expected to

- Understand the overview of business analytics
- Understand the models for summarizing, visualizing, and understanding useful information from historical data.
- Understand an overview of decision analysis approaches for incorporating a decision maker's view about risk into decision making.

## UNIT - I

**Introduction:** Decision making, Business analytics defined, a categorization of analytical methods and models: Descriptive analysis, predictive analysis, prescriptive analysis, big data. Business analytics in practice: Financial analytics, Human resource analytics, marketing analytics, supply chain analytics.

## UNIT - II

### Descriptive statistics

Overview of using data: definitions and goals, types of data, modifying data in excel, modifying data in excel, creating distributions from data, measures of location, measures of variability, analyzing distributions, measures of association between two variables.

## UNIT - III

### Data visualization:

Overview of data visualization, tables, charts, advanced data visualization, data dashboards.

## UNIT - IV

**Linear regression:** The simple linear regression model, least square method, assessing the fit of the linear regression model, the multiple regression model, inference and regression, categorical independent variables, modelling non-linear relationships.

## UNIT - V

**Decision analysis:** Problem formulation, Decision analysis without probabilities: Optimistic approach, conservative approach, minimax regret approach. Decision analysis with probabilities: decision analysis with sample information:

**Skill Development:**

*(These activities are only indicative; the Faculty member can innovate)*

1. Identify the applications of business analytics in HR, Marketing, Finance operations, etc.
2. Collect the data from various industries and present the data suitable visualizations techniques.
3. Collect the data of income and adv. expenditure / price of the companies. Develop the scatter plots and estimate the regression line. Estimate the income for the future.
4. Identify the various decision-making environments in the organizations.

**Text book:**

1. Essentials of Business Analytics, 1st Edition Jeffrey D. Camm, James J. Cochran, Michael J. Fry, Jeffrey W. Ohlmann, David R. Anderson, Dennis J. Sweeney, Thomas A. Williams. Cengage learning.

**REFERENCE BOOKS:**

1. Business Analytics data analysis and decision making Albright, Winston, edition CENGAGE Learning.
2. Statistics for Managers using Microsoft Excel, David M. Levine, David F. Stephan, Kathryn A. Sizabat, 7<sup>th</sup> edition, PHI.
3. Glyn Davis and Branko Pecar (2013), "Business Statistics using Excel", Oxford University Press, New Delhi.