K.L.E. Society's
LINGARAJ COLLEGE, BELGAUM
(Autonomous)

DEPARTMENT OF BBA

Code: 31102 - CERTIFICATE COURSE IN BUSINESS ANALYTICS

INTRODUCTION:

Data generated by humans and machines has witnessed an exponential growth in the last few years. Businesses are no exception to this phenomenon and are beginning to tap the hidden knowledge using Analytics.

This course will help the participants to apply analytical concepts to varied aspects of managerial decision making. Participants will also learn about best practices using open-source programming language and machine learning frameworks. Course will benefit participants interested in a career in data science, analytics, and consulting careers.

II. OBJECTIVES OF COURSE

➢ Identify opportunities for creating value using business analytics and describe the basic concepts in Business Analytics

➢ To train the students in working with spreadsheet

➢ To analyze Statistical data using MS-Excel

➢ To use open source software for data analysis.

III. Course Duration: 40 Hours.

IV. Eligibility and intake capacity

1. PUC/10 + 2 pass
2. Selection of the Students is based on entrance test (descriptive exam) and oral tests.
3. Maximum 50 Students are allotted for a batch.

V. Mode of teaching

➢ Lectures

➢ Practical Lab

➢ Assignment

➢ Interaction with experts.

VI. Medium of instruction: English

VII. Programme Structure:

    A. Scheme of Examination

        The Certificate Course consists of a total four Units with total of 100 marks. An Examination will be held at the end of the course.

	Examination	Internal Assessment
Paper I	30 Marks	20 Marks
	T OTAL	**100 Marks**

    B. The candidate should secure at least 40% of marks to successfully complete the certificate course.

SYLLABUS

UNIT 1: Statistics for Business Analytics   **8 Hours**
- Descriptive Statistics
  - Measures of Central Tendency
  - Measures of Variability
  - Quantile
  - Rank
  - Skewness and Kuttosis
- Correlation and Covariance
  - Coefficient of Correlation
  - Coefficient of Covariance
  - Correlation and Covariance
  - Correlation and Covariance at Successive Lags
  - Chi-Squire Test for Correlation

UNIT 2: MS Excel for Business Analytics   **8 Hours**
- Understanding of the Functions and formulas
- Types of Function in Excel
- Financial Analysis Tool Pack

UNIT 3: Basics of 'R'   **10 Hours**
- Introduction – Features and Installation
- Getting Started – Window Sections of R Studio, First Interaction, Command Line Versus Scripts, Comments, Help in R, Directory.
- Variables in R – Naming Variables, Assigning Values to Variables, Finding Variables, Removing Variables
- Input of Data – Input of Data from Terminal, Input of Data through R-Objects
- Output in R – print ( ) Function, cat( ) Function
- In-Built Functions in R – Mathematical Functions, Trigonometric Functions, logarithmic Functions, Date and Time Functions, Sequence Function, Repeat Function, String Functions,
- Packages in R – Standard Packages, Contributed Packages.

UNIT 4: Business Analytics using R   **14 Hours**
- Statistical Analysis using R
- Visualization Techniques
  - Basic Visualization – Pie Chart, Bar Chart, Histograms, Line Charts, Kernel Density Plots, Quantile-Quantile (Q-Q) Plot, Box-and-Whisker Plot, Dot Chart, Bubble Plot, Image Plot, Mosaic Plot
  - Advanced Visualization – Scatter Plot, Corrgrams, Star and Segment Plots, Tree Maps, Heat Map, Perspective and Contour Plot, Using ggplot2 for Advanced.

Suggested Readings and Reference Books:
1. Data Analytics with R: Dr. Bharti Motwani, Wiley India Pvt. Ltd., New Delhi 2020.
2. Excel Data Analysis Modelling and Simulation by Hector Gueppero.