BBA4.4: Business Statistics – II

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 Hours	64 hours

Pedagogy: Classroom lectures, Group Discussion, Seminars

Course Outcomes: On successful completion of the course, the students will be able

1. To understand and apply Correlation and Regression to study the relationship between variables.
2. To construct different Index Numbers and to understand its use.
3. To study and application of various Test of Hypotheses – T-Test, Z-Test, Chi-Square.
4. To understand the Statistical Quality Control and various Software Packages used in used in Research.

Module 1: Correlation Analysis	**14 hours**
Meaning and Definition, Types, Problems on Karl Pearson's Co–efficient of Correlation (Simple and Bivariate Correlation) and Probable Error.	
Module 2: Regression Analysis	**14 hours**
Meaning and Definition - Correlation Vs Regression, Determination of Regression Co-efficient, Framing Regression Equations, Problems on Simple and Bivariate Regression and Regression Coefficients.	
Module 3: Index Numbers	**16 hours**
Meaning and Definition, Uses, Classification; Construction of Index Numbers; Methods of Constructing Index Numbers; Problems on Simple Aggregative Method, Simple Average of Price Relative Method; Weighted Index Method – Problems on Laspeyre's Paasche's and Fishers Methods including TRT and FRT; Consumer Price Index.	
Module 4: Testing of Hypothesis	**12 hours**
Meaning and Definition, Characteristics, Use, Types, Type-I and Type-II errors, Level of Significance and Level of Confidence, Critical Region, One-tailed Test and Two-tailed Test. Simple Problems on T-Test, Z-Test, Chi square Test only.	
Module 5: Statistical Quality Control & Application of Statistical Software Packages **10 Hours**	
Statistical Quality Control: Meaning and Definition, Objectives, Control charts and their uses, Types of Control charts, Simple Problems on Construction of Mean ($\bar{X}$) and Range (R) charts only. **Introduction to Statistical Software Packages:** Overview of Software: Minitab, SPSS, SAS, R, Python, Excel with add-ins (Theory only).	

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Skill Development Activities

1) Analyze the correlation between study hours and exam scores of 10 classmates using correlation.
2) Predict future mobile data usage based on monthly usage trends using a regression equation.
3) Create control charts using imaginary weekly production data (mean and range) and assess whether the process is under control.
4) Construct a food price index using prices of 10 essential food items in your local market over two different years.
5) Make a bivariate table pertaining to Marks of V Semester BBA of your class in an Excel Sheet and also prepare a Bar chart.

Recommended Books for Reference:

1) Anand Sharma, Statistics For Management, Himalay Publishing House.
2) S P Gupta: Statistical Methods, Sultan Chand, New Delhi.
3) D P Apte, Statistical Tools for Managers, Excel Books, New Delhi.
4) Dr. B N Gupta, Statistics, Sahityta Bhavan Publishers, Agra.
5) S.C Gupta: Business Statistics, Himalay Publishing House.
6) N.V.R Naidu: Operation Research, I K International Publishers.
7) Ellahance: Statistical Methods, Kitab Mahal
8) Sanchethi and Kapoor: Business Mathematics, Sultan Chand Publications
9) S. Jayashankar: Quantitative Techniques for Management, Excel Books, New Delhi.
10) Chikoddi and Satya Prasad: Quantitative Analysis for Business Decision, Himalay Publishing House.

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