Veer Narmad South Gujarat University

Bachelor of Business Administration Semester 3

MDC - Business Statistics

Course Type	Multidisciplinary Course (MDC)
Course Title	**Business Statistics**
Credit	4
Teaching per Week	4 Hours
Review / Revision	June, 2024
Minimum weeks / Semester (Pedagogy)	15 (Lectures, Guest Lectures, Case Study, Presentations, Group Assignments)
Medium of Instruction	English
Purpose of Course	• To provide students with basic understating with the basic concepts of statistics and its applications in business
Course Objective	• To make students familiar with various measures of central tendency and dispersion. • To acquaint students with applicability of various business problems and their solution using statistics. • To explain the students with basics of data analysis.
Course Outcome	The students will be able to … • understand evolution of Statistics, and how it contributes to solution of business-related problems with statistical procedures and techniques. • apply the concepts of business statistics in their research project work in subsequent semesters. • understand various distributions of the data and its applicability in business setup. • apply concepts of correlation and regression in decision making and forecasting. • get strong foundation for data and analytics.

Course Content

Unit 1 Introduction to Business Statistics (Theory)   (15%)
- Brief History of Statistics, Meaning and Definitions of Business Statistics, Scope of Business Statistics, Applications of Business Statistics,
- Types of Data: Qualitative and Quantitative, Primary and Secondary, Discrete and Continuous
- Various types of graphs and charts used in statistics,

Unit 2: Measures of Central Tendency & Dispersion   (30%)
Measures of Central Tendency:
- Concept, Definitions, Advantages and Limitations,
- Practical Problems on Mean, Median, Mode of Ungrouped data as well as Grouped data

Measures of Dispersion:

• Concept, Definitions, Advantages and Limitations,
• Range, Quartile Deviation, Mean Deviation, Standard Deviation (Merits, Demerits and Practical Examples of Grouped and Ungrouped Data)
• Coefficient of Variation and its uses, practical examples

Unit 3: Correlation and Regression (25%)

Correlation

- Meaning, Definition, Types, Difference between Correlation and Causation, Properties of Correlation,
- Practical Examples on Karl Pearson's Method, Rank Correlation

Linear Regression

- Meaning, Definition, Uses, Limitations, Difference between correlation and Regression, Properties of Regression, Least Square method of Fitting Best line, Basic Understanding of Coefficient of determination (R^2)
- Practical Examples of Linear Regression

Unit 4: Testing of Hypothesis (30%)

Conceptual Understanding (Theory):

- Hypotheses: Null and Alternative, Parameter & Statistic, Process of Hypothesis Testing, Sampling Distribution, Type I & II Errors, Confidence Intervals, Level of Significance, Acceptance Region,

T-Test:

- Test of Single Mean, Test of Difference between two means (Independent sample t), Paired sample t

Chi-Square Test:

- Test of Independence of Attributes (2x2 Table only),

Analysis of Variance:

- One Way & Two Way ANOVA

Suggested Readings:

1. Statistical Methods: S. P. Gupta, S. Chand & Co., New Delhi
2. Mathematical Statistics: S. C. Gupta, S. Chand & Co., New Delhi
3. Business Statistics: Ken Black, Wiley Publication
4. Business Statistics: J.K. Sharma, Vikas Publication House
5. Complete Business Statistics: Amir D. Aczel, Tata McGraw Hill
6. Business Statistics: S P Gupta & M P Gupta, Sultan Chand & Sons