Name of the Program: Bachelor of Commerce (B.Com.)
Course Code: B.Com. 3.2
Name of the Course: Business Statistics

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	**3+2 Hrs**	**56 Hrs**

Pedagogy: Classroom lectures, Case studies, Tutorial Classes, Group discussion, Seminar & field work etc.,

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

a. Familiarizes statistical data and descriptive statistics for business decision-making.
b. Comprehend the measures of variation and measures of skewness.
c. Demonstrate the use of probability and probability distributions in business.
d. Validate the application of correlation and regression in business decisions.
e. Show the use of index numbers in business.

Syllabus:	**Hours**
Module No. 1: Statistical Data and Descriptive statistics.	**14**

Nature and Classification of data: Univariate, bivariate and multivariate data; Measures of Central Tendency: Mathematical averages including arithmetic mean, Properties and applications. Positional Averages -Mode and Median (including graphic determination).

Module No. 2: Measures of Variation: and Skewness	**12**

Measures of Variation: absolute and relative. Range, quartile deviation, mean deviation, standard deviation, and their coefficients, Properties of standard deviation/variance.
Skewness: Meaning, Measurement using Karl Pearson and Bowley's measures; concept of Kurtosis.

Module No. 3: Probability Distributions	**10**

Theory of Probability. Approaches to the calculation of probability; Calculation of event Probabilities. Addition and multiplication laws of probability (Proof not required); Conditional probability and Bayes' Theorem (Proof not required)- Expectation and variance of a random variable - Probability distributions - Binomial distribution: Probability distribution function, Constants, Shape, Fitting of binomial distribution - Poisson distribution: Probability function, (including Poisson approximation to binomial distribution), Constants, Fitting of Poisson distribution - Normal distribution:
Probability distribution function, Properties of normal curve, Simple problems.

Module No. 4: Correlation and Regression Analysis	**12**

Correlation Analysis: Meaning of Correlation: - types of correlation- Positive and negative correlation-simple, partial, and multiple correlation. linear and Non-linear correlation and Scatter diagram, Pearson's co-efficient of Correlation; Correlation and

Probable error; Spearman's Rank Correlation co-efficient. -problems.
Regression Analysis: meaning and definition- regression lines, Regression equations and estimation; Properties of regression coefficients; Relationship between Correlation and Regression coefficients- problems.

Module 5: Index Numbers	**8**

Meaning and uses of index numbers; Construction of index numbers: Fisher's ideal index number with Time Reversal and Factor Reversal Tests. Construction of consumer price indices Using Aggregative Expenditure method and Family Budget method.

Skill Development Activities:

1. Application of MS Excel Functions in statistical decision making and studentsshould submit output of the same.
2. Collect the age statistics of 10 new married couples calculate Correlation coefficient.
3. Recall the use of probability theory in business.
4. Identify the applicability of correlation and regression in business decisionmaking.
5. Construct consumer price indices with imaginary figures.
6. Any other activities, which are relevant to the course.

Text Books:

1. Gupta, S.P., and Archana Agarwal. Business Statistics, Sultan Chand and Sons,New Delhi.
2. Vohra N. D., Business Statistics, McGraw Hill Education.
3. Gupta, S.C. Fundamentals of Statistics. Himalaya Publishing House.
4. Anderson, Sweeney, and Williams, Statistics for Students of Economics and Business, Cengage Learning.
5. CB Gupta
6. DN Elhance Fundamentals of statistics
7. Sen Chetty and Kapoor mathematical statistics

Note: Latest edition of text books may be used.