

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	4 Hrs	60 Hrs
Pedagogy: Classroom lectures, Case studies, Tutorial Classes, Group discussion, Seminar and field work etc.,		
COURSE OBJECTIVES: <ul style="list-style-type: none"> • To equip students with the various statistical techniques available for data analysis in the fields of business and management • To give students an in depth knowledge about theoretical distribution and help them to arrive at a conclusion. • To enable student to understand and analyse probability and its usage. • To enable students to make decision using Decision Theory. 		
LEARNING OUTCOMES: <ul style="list-style-type: none"> • Infer some characteristics of a population by examining a portion of the population. • Compare characteristics of different populations. • Make informed decisions in a probabilistic business environment. 		
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 – Median and Mode (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	14
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: <ol style="list-style-type: none"> 1. Application of MS Excel Functions in statistical decision making and students should 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 decision making. 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.