

NIRMA UNIVERSITY
Institute of Commerce
Bachelor of Commerce (Hons.)
[B.Com. (Hons.)]
Semester – II

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Course Code	SEC2
Course Title	BUSINESS STATISTICS

Course Learning Outcomes (CLO):

At the end of the course, students should be able to:

1. understand the role of time series and sampling in business contexts.
2. describe basic theory of probability and its applications in business.
3. explain basic statistical distributions and its application in business.
4. apply correlation and regression analysis to model the relationship between variables.
5. apply time series analysis to model the relationship between variables.

Syllabus

Teaching Hours

<p>Unit I: An Overview of Statistics</p> <ul style="list-style-type: none"> • Introduction • Types of data • Measures of central tendency • Skewness, moments and Kurtosis 	10
<p>Unit II: Probability And Mathematical Expectations</p> <ul style="list-style-type: none"> • Basic Concepts: Random Experiments, Sample space, events • Definition of probability • Conditional probability, Multiplication rule • Baye's Theorem (Without rule) • Application of Mathematical Expectation <ul style="list-style-type: none"> - Definition of Random variable - Discrete and continuous random variable - Concept of probability distribution - Expected value of discrete random variable - Variance of discrete random variable • Introduction to Binomial, Poisson and Normal Distributions 	15

<p>Unit III: Correlation and Regression</p> <p>Correlation Analysis:</p> <ul style="list-style-type: none"> • Definition, Meaning • Coefficient of correlation properties • Types of Correlation • Methods of studying Correlation • Applications <p>Regression Analysis:</p> <ul style="list-style-type: none"> • Distinction between correlation and regression • Coefficient of Determination and its interpretation • Application 	12
<p>Unit IV: Time Series and Sampling Methods</p> <p>Time series Analysis</p> <ul style="list-style-type: none"> • Introduction • Components of time series • Measurements of forecasting error • Methods-Moving average and exponential smoothing <p>Sampling Methods</p> <ul style="list-style-type: none"> • Basic concepts of population and sample • Characteristic of a good sample • Probability sampling methods • Non probability sampling methods 	8

Suggested Readings:

- 1 Davis G., and Pecar B, (2016) Business Statistics using Excel, Oxford
- 2 Gupta S.C., (2016) Fundamental of statistics, sultan Chand & Sons, Delhi
- 3 Hooda, R.P., (2016) Introduction to statistics, Macmillan India Ltd.
- 4 Levin, R. and Rubin, S, (2016) Statistics for Management, Printice Hall of India Pvt. Ltd., New Delhi
- 5 Sancheti and Kapoor, (2016) Statistics (Theory, Methods and Application), Sultan Chand & Sons Publication.

w.e.f. Academic Year 2017-18 and onwards