

OBE based Teaching Lesson Plan 2019-20

Program: B.Com (Analytics)

Course Name: Business Statistics - II

Course Code: C5 19 MC 203

Semester: II

Lecture hours: 60

Faculty in-charge: Dr. Poornima Vijaykumar

Course Outcome No.	Course Outcomes	T level Indicator
CO1.	Illustrate the scope of Probability and its application for determination of certainty of possible outcome of event in the context of business transactions.	T3
CO2.	Determine the type of probability distribution on the basis of possible outcome of Business event.	T5
CO3.	Use the appropriate test of hypothesis for single mean and two means	T3
CO4.	Justify the application of Chi - Square Test and ANOVA for testing of hypothesis in accordance with merit of the case.	T5
CO5.	Examine the applicability and implication of correlation and regression analysis in determining the relationship between two or more variables.	T5

Module No. & Topics Covered	Course Outcome No.	No. of Lecture Hours	Pre-Class Activity	Instructional techniques	Assessment	T level
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<p>Module 1: Introduction to Probability Importance and Definition of Probability - Random Variable - - Sample Space - Favourable Events - Mutually Exclusive Events - Dependent and Independent Events - Permutations and Combinations (simple application problems) - Addition, and Multiplication Theorem of Probability - Conditional Probability - (simple application problems).</p>	CO1	10 Hrs	Read on Probability and its application in business	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T3
<p>Module 2: Probability Distributions Binomial Distribution (meaning and importance) and its Probability Function - Poisson Distribution (meaning and importance) and its probability function (simple application problems).</p>	CO2	15 Hrs	Read on Probability Distributions and its application in business	Lecture, Discussion, and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5

Normal Distribution (meaning and importance) - Probability Function of Normal Distribution - Standard Normal Distribution and its applications (simple problems).						
Module 3: Hypothesis Testing - I Meaning and Importance of Hypothesis - Formation of Null and Alternative Hypothesis - Level of Significance - Level of Confidence - Type I and Type II Errors - Hypothesis Testing: t-test, z-test, test for Single Mean and Test for Difference Between Two Means.	CO3	10 Hrs	Read on Hypothesis Testing - Parametric Tests and its application in business	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T3
Module 4: Hypothesis Testing - II Chi-square test - Importance - Conditions for Chi-square Test and applications problems - Degrees of	CO4	10 Hrs	Read on Non-Parametric Tests and its application in business	Lecture, Discussion, and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5

Freedom - Contingency Table and its applications - One way ANOVA and its applications.						
Module 5: Correlation and Regression Analysis Meaning - Definition - Uses of Correlation - Types of Correlation - Scatter Diagram - - Karl Pearson's correlation coefficient - Spearman's Rank Correlation - Probable error. Regression - Meaning and utility of Regression Analysis - Regression lines - X on Y - Y on X - Multiple Linear Regression - Fitting multiple linear regression models of the form $Y = a + b_1x_1 + b_2x_2 + \dots + b_nx_n$ (involving two regressions)- Prediction- Regression coefficients and coefficient of determination.	CO5	15 Hrs	Read on Correlation & Regression techniques and its application in business	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5

Continuous Internal Assessment:

- December 2nd – 8th: Assignment – 10 marks
- February 19th – 23rd: Class test / Online Test – 10 marks

Books for Reference:

- Croxton F. E, Cowden D. J and Kelin S (1973):Applied GeneralStatistics., PHI.
- Freund J E and Walpole R E (1987) Mathematical Statistics (4th edition)PHI.
- Goon A. M., Gupta M. K., Das Gupta. B.(1991):Fundamentals of Statistics Vol. I, World Press, Calcutta.
- Gupta, S. C., and V. K. Kapoor(2001):Fundamentals of Mathematical Statistics: Sultan Chand & Sons.
- Medhi J (1992): Statistical Methods: An introductory text. NewAge.
- Veerarajan T: Probability, Statistics and Random process (Tata Mc Gran Hill)
- J K Sharma(2007), Business Statistics (Pearson Education India)
- Naval Bajpai (2009), Business Statistics (Pearson Education India)
- Anderson T.W. and Sclove S.L (1978) An Introduction to the Statistical Analysis of Data, Houghton Mifflin &Co.
- Cooke, Cramer and Clarke: Basic Statistical Computing, Chapman and Hall.
- Mood A. M. Gray bill F. A. and Boes D. C. (1974): Introduction to the Theory of Statistics, McGraw Hill.
- Snedecor G. W. and Cochran W. G. (1967): Statistical Methods. Iowa State University Press.
- Spiegel, M.R. (1967): Theory & Problems of Statistics, Schaum's publishing Series.
- K V S Sarma, Statistics Made Simple: Do it yourself on PC(PHI)
- Purohit S. G. et.al. Statistics using R:
- John Verzani (2005): Using R for Introductory Statistics, CHAPMAN&HALL/CRC

Approved by: OBE Team