OBE based Teaching Lesson Plan 2020-2021

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	Course Outcomes	T level Indicator
No.		
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.	Т3
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
Module 1: Introduction to Probability Importance and Definition of Probability - Random Variable - - Sample Space - Favourable Events	CO1	10 Hrs	Read on Probabilit y concepts and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T3

- Mutually						
Exclusive Events -						
Dependent and						
Independent Events						
- Permutations and						
Combinations						
(simple application						
problems) -						
Addition and						
Multiplication						
Theorem of						
Probability -						
Conditional						
Probability -						
(simple application						
(simple application problems)						
Module 2:	<u> </u>	15 Hrs	Read on	Lecture	Solve extra	Т5
Probability	002	15 1115	Probabilit	Discussion	problems	15
Distributions			V	and Problem	from the	
Binomial			y Distributio	Solving	work sheet/	
Distribution			ns and its	Solving	Question &	
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(incaring and its			applicatio		Test	
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(meaning and its						
importance) and its						
(simple application						
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problems).						
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Function of Normal						
Distribution -						
Standard Normal						
Distribution and its						
applications						
(simple problems).	<u> </u>	10 11	Deeden	Testerne	Calara antina	T 2
Module 3:	003	10 Hrs	Read on	Lecture,	Solve extra	13
Hypotnesis			Hypothesi	Discussion,	problems	
1 esting – 1 Maanima and			s Testing	Presentation	Irom the	
Meaning and			— —	and Problem	work sheet/	
Importance of			Parametric	Solving	Question &	
Hypothesis -			Tests and		Answer/	
Formation of Null			1ts		Test	
and Alternative			applicatio			

Hypothesis - Level			n in			
of Significance –			business.			
Level of						
Confidence - Type						
Land Type II Errors						
- Hypothesis						
Testing: t-test z-						
test test for Single						
Mean and Test for						
Difference Between						
Two Means						
Modulo 4	CO4	10 Um	Pood on	Locturo	Solvo ovtro	Т5
Would 4.	04	10 1115	Non	Discussion	problems	15
Tosting II			Deremetrie	Discussion,	from the	
Testing – II			Parametric Tests and		mom the	
Cm-square test -			i ests and	Solving	work sheet/	
Importance -					Question &	
Conditions for Chi-					Answer/	
square Test and			n in		Test	
applications			business.			
problems - Degrees						
of Freedom -						
Contingency Table						
and its applications						
- One way ANOVA						
and its applications.						
Module 5:	CO5	15 Hrs	Read on	Lecture,	Solve extra	T5
Module 5: Correlation and	CO5	15 Hrs	Read on Correlatio	Lecture, Discussion,	Solve extra problems	T5
Module 5: Correlation and Regression	CO5	15 Hrs	Read on Correlatio n &	Lecture, Discussion, Presentation	Solve extra problems from the	T5
Module 5: Correlation and Regression Analysis	CO5	15 Hrs	Read on Correlatio n & Regressio	Lecture, Discussion, Presentation and Problem	Solve extra problems from the work sheet/	T5
Module 5: Correlation and Regression Analysis Meaning -	CO5	15 Hrs	Read on Correlatio n & Regressio n	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question &	T5
Module 5: Correlation and Regression Analysis Meaning - Definition - Uses of	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/	T5
Module 5: Correlation and Regression Analysis Meaning - Definition - Uses of Correlation - Types	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
Module 5: Correlation and Regression Analysis Meaning - Definition - Uses of Correlation - Types of Correlation -	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
Module 5: Correlation and Regression Analysis Meaning - Definition - Uses of Correlation - Types of Correlation - Scatter Diagram	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
Module 5: Correlation and Regression Analysis Meaning - Definition - Uses of Correlation - Types of Correlation - Scatter Diagram Karl Pearson's	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
Module 5: Correlation and Regression Analysis Meaning - Definition - Uses of Correlation - Types of Correlation - Scatter Diagram Karl Pearson's correlation	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
Module 5: Correlation and Regression Analysis Meaning - Definition - Uses of Correlation - Types of Correlation - Scatter Diagram Karl Pearson's correlation coefficient -	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
Module 5: Correlation and Regression Analysis Meaning - Definition - Uses of Correlation - Types of Correlation - Scatter Diagram Karl Pearson's correlation coefficient - Spearman's Rank	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
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 -	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
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.	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
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 -	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
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	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
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	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
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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 –	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
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 - Yon X –	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
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 - Yon X – Multiple Linear	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
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 - Yon X - Multiple Linear Regression -	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5
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 - Yon X – Multiple Linear Regression – Fitting multiple	CO5	15 Hrs	Read on Correlatio n & Regressio n techniques and its applicatio n in business.	Lecture, Discussion, Presentation and Problem Solving	Solve extra problems from the work sheet/ Question & Answer/ Test	T5

models of the form			
Y = a + b1x1 +			
b2x2 ++ bnxn			
(involving two			
regressions)-			
Prediction-			
Regression			
coefficients and			
coefficient of			
determination.			

Continuous Internal Assessment:

- February 1st 6th: Assignment/ Online Test MCQs 10 marks
- April 5th 10th: Class (Offline) 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 Miffin &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: