

Course code	TITLE OF THE COURSE			L	T	P	C
<b>Allied II</b>	<b>Business Statistics II</b>			<b>4</b>			<b>4</b>
<b>Pre-requisite</b>	<b>ALLIED II: BUSINESS STATISTICS – II</b>			<b>Syllabus Version</b>			
<b>Course Objectives:</b>							
The main objectives of this course are to:							
➤ To analysis a data for the purpose of exploration using descriptive and inferential statistics.							
➤ To solve the creative application statistical problems							
➤ To enable the students to learn the Statistical methods of inferential statistics.							
<b>Expected Course Outcomes:</b>							
On the successful completion of the course, student will be able to:							
1	Explain the creative application of linear regression in multivariate context for predictive purpose.						K1
2	Understand probability and sampling distribution.						K2
3	Understand the concepts of chi-square test.						K2
4	Understand the statistical tools for multivariate data set.						K2
5	Examine the data reliability and validity of the data set.						K4
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 - Create</b>							

<b>UNIT –I</b>		<b>Hours - 12</b>
Regression Analysis - Meaning of regression and linear prediction- Regression in two variables- Regression equation - Regression coefficients, Standard errors of estimates, Coefficient of determination.		
Time Series- Meaning, Components and models – Business forecasting- Methods of estimating trend- Graphic, semi- average, Moving average and Method of Least squares- Different variation (Seasonal, cyclical, irregular).		
<b>UNIT – II</b>		<b>Hours - 12</b>
Probability – introduction, meaning and application of Probability – Addition and Multiplication theorem- Bayes theorem – Practical problems.		
Sampling from finite population – simple random sampling, stratified random sampling and systematic sampling- estimation of mean, total and their standard errors. Sampling and non-Sampling errors (concepts only).		
<b>UNIT – III</b>		<b>Hours - 12</b>
Test of Hypothesis: Type I error and II errors- one tailed and two tailed test -Test of significance – standard error- large sample tests with respect to mean, standard deviation proportion, difference between means, standard deviations and proportions - Power test – Neyman – Pearson lemma- Likelihood ratio tests – concept of most powerful test (statements and results only) - chi- Square test – Applications.		
<b>UNIT - IV</b>		<b>Hours - 12</b>
Analysis of Variance: one way, two classifications- fundamental principles of experimentation- CRD, RBD and LSD, analysis of co-variance.		
<b>UNIT - V</b>		<b>Hours - 12</b>

Multivariate Statistics-validity, Reliability, Types-Multiple regression, Logistic regression- Factor analysis, conjoint analysis, cluster analysis, correspondence analysis, multivariate model building.

**Reference Books**

1	S.P. Gupta and M.P. Gupta, Business Statistics– Sultan Chand & Sons Educational Publishers – New Delhi., 18th Edition -2014
2	Anderson, David.R., Thomas A. Williams and Dennis J. Sweeney, Statistics for Business and Economics, New Delhi: South Western.
3	J.K. Sharma, Business Statistics, Pearson Education India, 2007.
4	KVK Sharma, Statistics Made Simple: Do it Yourself on PC- PHI Publication
5	Gupta, S.C, and V.K. Kapoor, Fundamentals of Mathematical Statistics- Cultan Chand & Sons – New Delhi. 2001
6	Mood A.M. Graybill F.A and Boes D.C, Introduction to the Theory of Statistics, Mcgraw Hill.
7	Lee, Cheng. et.al, Statistics for Business and Financial Economics, New York: Wiley Heidelberg Dordrecht

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**Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]**

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Course Designed By:

COs	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	S
CO3	S	S	M	S	S
CO3	S	S	S	S	S
CO4	S	S	S	S	M
CO5	S	S	S	S	M