

Branch Name:	B.Com
Program Code:	2CM101
Course Name:	Advanced Statistics-6
Course Code:	2CM1010514
Pre-requisite Course:	Advanced knowledge of Statistics.

Course Objectives:

1. To provide in depth knowledge to the students about advanced statistical tools and approaches.
2. To expose students to advanced Statistical concepts.
3. To inculcate an analytical approach to the subject matter.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	--	-	3	70	30	-	-	100

Subject Contents:

Sr. No	Topic	Total Hours	Weightage (%)
1	A. Binomial Distribution: Probability function of Binomial Distribution, Constants of Binomial Distribution, Mode of Binomial Distribution, Fitting of Binomial Distribution B. Poisson Distribution(As a limiting case of Binomial Distribution): Utility or Importance of Poisson Distribution, Constants of Poisson Distribution, Mode of Poisson Distribution, Fitting of Poisson Distribution	9	25%
2	Normal Distribution: Equation of Normal Distribution, Standard Normal Distribution, Relation between Binomial and Normal Distribution, Relation between Poisson and Normal Distribution, Properties of Normal Distribution, Areas under Standard Normal Probability Curve, Importance of Normal Distribution.	9	25%
3	Sampling Theory and Design of Sample Surveys: Introduction, Universe or Population, Sampling, Parameter and Statistic, Principles of Sampling, Law of Statistical Regularity, Census versus sample enumeration, Limitations of Sampling, Principal steps in a Sample Survey, Errors in statistics, Measures of Statistical errors, Types of Sampling (Simple Random Sampling, Stratified Random Sampling, Systematic Sampling, Cluster Sampling, Multistage Sampling, Quota Sampling)	9	25%
4	Chi-Square Test: Introduction, Chi-Square Distribution, Application of the χ^2 –Distribution, Chi-Square test of goodness of fit, Conditions for the Validity of Chi-Square Test, Chi-Square Test for Independence of Attributes, Degrees of freedom, 2 x 2 Contingency table, 2 x k contingency table, Test for Several Proportions, χ^2 - Test for the Population Variance, Examples.	9	25%

Text Books:

1.

Reference Books:

1. Donald R. Cooper & Pamela S. Schindler, Business Research Methods, Tata McGraw-Hill Publishing Co. Ltd. , New Delhi
2. S. C. Gupta, V. K. Kapoor, Fundamentals of Applied Statistics, Sultan Chand & sons, New Delhi
3. S.C. Gupta, Fundamentals of Statistics, Himalaya Publishing House
4. Vyas H.R. and others, Business Mathematics- B. S. Shah Prakashan,Ahmedabad

List of Open Source Software/learning website:**LAB/Practical**

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	understand the methods for describing sets of data.	2 Understanding
CLO2	Illustrate the different types of statistical method.	3 Applying
CLO3	Compare about the various statistical method.	4 Analyzing
CLO4	understand the basic Chi-Square.	2 Understanding
CLO5	Understanding the concepts of Equation of Normal Distribution.	2 Understanding
CLO6	To describe Sampling statistical method.	1 Remembering

Mapping of CLOs with Pos & PSOs

Course Learning Outcomes (CLOs)	Program Outcomes (POs)							Program Specific Outcomes (PSOs)	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CLO1	H		M	H		L	M	M	H
CLO2									
CLO3	H		H	H	L				
CLO4	H		H	H	M			L	M
CLO5	H		H	H			M		
CLO6	M	L	M	M				M	H

H:High, M:Medium, L:Low