

S.Y.B.COM

Semester -IV

Statistics Paper 4: Mathematical Economics (Major Paper-IV) - Credit 4

Course Outcomes (COs)

On completion of the course, the students will be able to:

CO1	Understand the basic concept of mathematical economics.
CO2	Understand the concept of multiple and partial correlation.
CO3	Understand the concept of multiple regression for three variables.
CO4	Understand about the properties of correlation and regression.
CO5	Apply the course content for the further study of statistics.

OBJECTIVE

The main objective of this course is to provide fundamental knowledge of mathematical economics, multiple and partial correlation and multiple regression. The purpose is to make students aware about utility of the statistical concepts for real life problems.

B. Maity

@us

Sr.No.	Course Inputs (As per UGC Model Curriculum)	Weightage	Marks
Unit -1	Mathematical Economics: ➤ Statistical laws of demand and Supply ➤ Price Equilibrium ➤ Price elasticity of demand & Price elasticity of Supply ➤ Profit maximization under monopoly and Duopoly	30%	15
Unit-2	➤ Utility Function ➤ Constrained utility maximization ➤ Cob-Dogglass Production function ➤ Examples	10%	5
Unit-3	Multiple regression (For Three Variables): ➤ Equation of Regression Plane ➤ Properties of residual ➤ Coefficient of multiple regression ➤ derivation of their formula and properties with proof and related results	30%	15
Unit-4	Multiple and partial correlation: ➤ Concept of partial Correlation ➤ correlation Coefficient for three variables ➤ derivation of their formula and properties with proof and related results (For Three Variable)	30%	15
Grand Total		100%	50

Reference Books:	
Hogg& Craig	Mathematical Statistics
J.K.Goyal, B.K.Saksena	Mathematical economics
Goon A.M., Gupta M.K. and Dasgupta B. (2000):	Fundamentals of Statistics, Vol. I & II, 8 th Edn. The World Press, Kolkata.

Bmailg
@us

S.Y.B.COM
Semester -IV
Statistics Paper 3: Sampling Theory (Major/MINOR Paper-3) - Credit 4
Course Outcomes (COs)

On completion of the course, the students will be able to:

CO1	Understand the basic concept of sampling.
CO2	Understand the concept of simple random sampling for with and without replacement cases.
CO3	Understand the concept of stratified random sampling.
CO4	Understand the concept of systematic sampling.
CO5	Apply the course content for the further study of statistics.

OBJECTIVE

The main objective of this course is to provide fundamental knowledge of sampling, simple random sampling, stratified sampling and systematic sampling. The purpose is to make students aware about the application of sampling in research.

B. Meily
@use

Sr.No.	Course Inputs (As per UGC Model Curriculum)	Weightage	Marks
Unit -1	Introduction of Sampling and Simple random sampling with & without Replacement Introduction of Sampling: ➤ Basics principles of sampling theory ➤ Comparison between sample survey and complete enumeration ➤ Errors in sample survey ➤	10%	5
Unit -2	Simple random sampling with & without Replacement: ➤ Selection of sample ➤ Estimation of population total and means ➤ Standard error and coefficient of variation of estimator(Without proof)	30%	15
Unit-3	Stratified random Sampling (without Proof): ➤ Estimation of mean ➤ Variance of the estimator ➤ Estimation of the variance ➤ Estimation of gain due to stratification from a stratified sample ➤ Finding sample sizes under proportional and optimum allocations and their comparisons for a given example.	40%	20
Unit-4	Systematic Sampling (Without Proof): ➤ Estimation of mean ➤ Variance of the estimator ➤ Estimation of the variance based on interpenetrating sub samples ➤ Comparison of systematic and simple random sampling for a given population	20%	10
Grand Total		100%	50

Reference Books:	
Cochran W.g. (1984):	Sampling Techniques(3rd Ed.) Wiley Eastern
Murthy M.N.(1977)	Sampling theory & Statistical Methods, Statistical Pub. Society, Calcutta.
Sukhatme .P.V.et,al (1997)	"Sampling Theory of surveys with Application " III-Ed , The Iowa state Univ Press, Ames, Iowa USA and Indian Society of Agriculture Statistics , New Delhi
Yates F. (1960)	Sampling Methods in censuses and surveys Ed-III Charles Griffin &Co.Ltd London
Hansen M.H.et al (1993)	Sample survey Methods and Theory . Willey blackwell : Volume 1 edition

