Department of Statistics
Programme: B.Sc. (General) (CBCS)

Course Outcomes

Name of the paper	Paper Code	Semester	Credit Point Theory (Th)/ Practical (Pr)		Course Outcomes
Descriptive Statistics	CC-1	Semester-I	4	2	After completing this course students will develop a clear understanding of: • Concepts of statistical population and sample, types of data: qualitative and quantitative and different scales of measurement • Construction of frequency distribution and how to present data in tabular and diagrammatic form • Computation of measures of Central tendency, Dispersion, Skewness and Kurtosis • Idea of bivariate data and its diagrammatic representation and computation of different types of correlation associated with it along with the concept of partial and multiple correlation (3 variables only) • How to find regression lines and fit mathematical curves using principle of least squares
Elementary Probability Theory	CC-2	Sem-2	4	2	On successful completion of this course students will clearly understand • Idea of random experiments • Different approaches to the theory of probability • Important theorems on probability and their applications in solving problems • Concepts of random variables and it's probability distribution and properties • Discrete and continuous probability distribution and their properties Concepts of weak laws of large numbers (WLLN) and central limit theorem (CLT)

Introduction to Statistical Inference	CC-3	Sem-3	4	2	• This course will help students in developing a clear understanding of Concepts of population and sample, parameter and statistics, population and sampling distribution • Properties of four useful distributions (Normal, Chi square, t and F) • Theory of point estimation and interval estimation • Testing of hypothesis and different concepts related to it • Tests of proportions • Tests of hypotheses for the parameters of a normal distribution based on a single sample and two samples • Non-parametric test (sign Test) • Analysis of variance • Basic principles of design of experiments • Analysis of two basic designs (CRD and RBD)
Application of Statistics	CC-4	Sem-4	4	2	After completing this course students will develop a clear understanding of • Concepts of population and sample, complete enumeration and sampling, sampling and non-sampling errors, types of sampling • Basic principles of sample survey and selection of a sample of a given size • Idea of simple random sampling and stratified sampling • Concepts of index number and construction of price and quantity index numbers • Construction of consumer price index number and wholesale index number and its significance • Tests for index numbers • Time series data and it's different components, models of time series

					• Measurement of trend component by different methods • Concepts of rates and ratios of vital events • Measurements of mortality and fertility • Construction of life table and definition of main function and uses
Operations Research	DSE-A	Sem-5	4	2	From this course students will acquire knowledge about • Concepts of operational research technique and different model • Linear Programming Problem • Transportation Problem • Assignment Problem
Econometrics	DSE-A	Sem-5	4	2	After this course students will develop understanding of • Concepts of econometrics • Specification of the model • Heteroscedasticity • Autocorrelation • Multicollinearity • Instrumental variable method
Survival Analysis	DSE-B	Sem-6	4	2	From this course students will learn about • Survival functions • Different survival distributions and their applications • Different types of censoring schemes with biological examples • Estimation of mean survival time and variance of the estimator • Non-parametric methods of estimation of survival function
Project Work	DSE-B	Sem-6	-	6	This course aims at initiating students to • Write and present a statistical report • Deal with real life data • Propel them to dwell on some theory or relate data to some theoretical concepts learnt before
Statistical data analysis using R	SEC-A1	Sem-3	2	-	After completing this course students will have a clear understanding of • Introduction to R • How to use R to perform basic arithmetic operations • How to plot graphs using R • Loading data from file

Data Base Management System	Sec-B1	Sem-4	2	-	Upon successful completion of this course, students should be able to understand • Introduction to database management system and data base languages • Relational database management system • Database structure • Types of data models
Research Methodology	SEC-A2	Sem-5	2	-	After completion of this course students will develop a clear understanding of • Meaning and process of research • Research problem • Types of variables • Different scales of measurement • Types of research • Survey methods and data collection
Monte Carlo Method	SEC-B2	Sem-6	2	-	From this course students will possess skills concerning • Generation of random numbers using computer • Simulation and its different uses • Use of Monte Carlo methods and idea of importance sampling • Random variable generation from theoretical distribution