DEPARTMENT OF STATISTICS (UG)

COURSE OUTCOMES

SEMESTER – I

DECRIPTIVE STATISTICS

CO#	Course Outcome
CO1	Knowledge of Statistics and its scope and importance in various areas such as Medical, Engineering, Agricultural and Social Sciences etc.
CO2	Knowledge of various types of data, their organization and evaluation of summary measures such as measures of central tendency and dispersion etc.
CO3	Knowledge of other types of data reflecting quality characteristics including concepts of independence and association between two attributes,
CO4	Insights into preliminary exploration of different types of data.
CO5	Knowledge of correlation, regression analysis, regression diagnostics, partial and multiple correlations.

SEMESTER – II

PROBABILITY AND PROBABILITY DISTRIBUTIONS

CO#	Course Outcome
CO1	Ability to distinguish between random and non-random experiments,
CO2	Knowledge to conceptualize the probabilities of events including frequentist and axiomatic approach. Simultaneously, they will learn the notion of conditional probability including the concept of Bayes' Theorem,
CO3	Knowledge related to concept of discrete and continuous random variables and their probability distributions including expectation and moments
CO4	Knowledge of important discrete and continuous distributions such as Binomial, Poisson, Geometric, Negative Binomial and Hyper-geometric, normal, uniform, exponential, beta and gamma distributions
CO5	Acumen to apply standard discrete and continuous probability distributions to different situations.

SEMESTER – III

STATISTICAL INFERENCE

CO#	Course Outcome
CO1	Concept of law large numbers and their uses and
CO2	Concept of central limit theorem and its uses in statistics
CO3	Concept of random sample from a distribution, sampling distribution of a statistic, standard error of important estimates such as mean and proportions
CO4	Knowledge about important inferential aspects such as point estimation, test of hypotheses and associated concepts
CO5	Knowledge about inferences from Binomial, Poisson and Normal distributions as illustrations and large and small sample tests.
CO6	Concept about non-parametric method and some important non-parametric tests

SEMESTER –IV

SAMPLING TECHNIQUES AND DESIGN OF EXPERIMENTS

CO#	Course Outcome
CO1	Introduced to various statistical sampling schemes such as simple, stratified and systematic sampling.
CO2	. An idea of conducting the sample surveys and selecting appropriate sampling techniques
CO3	Knowledge about comparing various sampling techniques
CO4	Carry out one way and two way Analysis of Variance
CO5	Understand the basic terms used in design of experiments
CO6	Use appropriate experimental designs to analyze the experimental data.

APPLIED STATISTICS

CO#	Course Outcome
CO1	Time series data, its applications to various fields and components of time series,
CO2	Fitting and plotting of various growth curves such as modified exponential, Gompertz and logistic curve
CO3	Fitting of trend by Moving Average method
CO4	Measurement of Seasonal Indices by Ratio-to-Trend , Ratio-to-Moving Average and Link Relative methods
CO5	Applications to real data by means of laboratory assignments

CO6	Interpret and use a range of index numbers commonly used in the business sector
CO7	Perform calculations involving simple and weighted index numbers 8)
CO8	Understand the basic structure of the consumer price index and perform calculations involving its use
CO9	Various data collection methods enabling to have a better insight in policy making, planning and systematic implementation
CO10	Construction and implementation of life tables
CO11	Population growth curves, population estimates and projections
CO12	Real data implementation of various demographic concepts as outlined above through practical assignments.

SEMESTER –V

SAMPLING TECHNIQUES AND DESIGN OF EXPERIMENTS

CO#	Course Outcome
CO1	Introduced to various statistical sampling schemes such as simple, stratified and systematic sampling.
CO2	. An idea of conducting the sample surveys and selecting appropriate sampling techniques
CO3	Knowledge about comparing various sampling techniques
CO4	Carry out one way and two way Analysis of Variance
CO5	Understand the basic terms used in design of experiments
CO6	Use appropriate experimental designs to analyze the experimental data.

SEMESTER –V

QUALITY AND RELIABILITY

CO#	Course Outcome
CO1	To define 'quality' in a scientific way
CO2	To differentiate between process control and product control
CO3	To speak about quality awareness in industry
CO4	To pave a path to an industry to meet the standards
CO5	To effectively implement various plans to control the quality standards at various stages of an industry.
CO6	To know about the Reliability, failure rates and Hazard rates of life

SEMESTER –VI

OPTIMIZATION TECHNIQUES

CO#	Course Outcome
CO1	Discuss the formulation of linear programming problems, graphical solution and general solution of linear programming problem.
CO2	Describe simplex method and two- phase method, Big- M method and to resolve degeneracy in linear programming problem, solved problems in simplex method
CO3	Explain the concept of duality in linear programming and comparison of the solutions of the dual and primal

OPERATIPONS RESEARCH- 8A (CLUSTER ELECTIVE)

CO#	Course Outcome
CO1	Discuss the revised simplex method with example problems.
CO2	Knowledge about the transportation problem with complete solutions of them.
CO3	Discuss the Assignment models and Travelling sales man problems
CO4	Discussing about the job sequencing problems with real time problem to estimate the elapsed times

OPERATIONS RESEARCH - 8B (CLUSTER ELECTIVE)

CO#	Course Outcome
CO1	To discuss about strategies and various methods of solving games.
CO2	Concept of inventory and ER models.
CO3	Concept of Network diagram and critical path technology with problems

PROJECT WORK

CO#	Course Outcome
CO	Designing a questionnaire and collects the data for various fields of students choice and then doing some statistical analysis by using some statistical techniques. Further it provides knowledge to the students analyzing and make some conclusions.