

DEPARTMENT OF STATISTICS (UG)

COURSE OUTCOMES

SEMESTER – I

DESCRIPTIVE STATISTICS

CO#	Course Outcome
C01	Knowledge of Statistics and its scope and importance in various areas such as Medical, Engineering, Agricultural and Social Sciences etc.
C02	Knowledge of various types of data, their organization and evaluation of summary measures such as measures of central tendency and dispersion etc.
C03	Knowledge of other types of data reflecting quality characteristics including concepts of independence and association between two attributes,
C04	Insights into preliminary exploration of different types of data.
C05	Knowledge of correlation, regression analysis, regression diagnostics, partial and multiple correlations.

SEMESTER – II

PROBABILITY AND PROBABILITY DISTRIBUTIONS

CO#	Course Outcome
C01	Ability to distinguish between random and non-random experiments,
C02	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,
C03	Knowledge related to concept of discrete and continuous random variables and their probability distributions including expectation and moments
C04	Knowledge of important discrete and continuous distributions such as Binomial, Poisson, Geometric, Negative Binomial and Hyper-geometric, normal, uniform, exponential, beta and gamma distributions
C05	Acumen to apply standard discrete and continuous probability distributions to different situations.

SEMESTER – III

STATISTICAL INFERENCE

CO#	Course Outcome
C01	Concept of law large numbers and their uses and
C02	Concept of central limit theorem and its uses in statistics
C03	Concept of random sample from a distribution, sampling distribution of a statistic, standard error of important estimates such as mean and proportions
C04	Knowledge about important inferential aspects such as point estimation, test of hypotheses and associated concepts
C05	Knowledge about inferences from Binomial, Poisson and Normal distributions as illustrations and large and small sample tests.
C06	Concept about non-parametric method and some important non-parametric tests

SEMESTER –IV

SAMPLING TECHNIQUES AND DESIGN OF EXPERIMENTS

CO#	Course Outcome
C01	Introduced to various statistical sampling schemes such as simple, stratified and systematic sampling.
C02	. An idea of conducting the sample surveys and selecting appropriate sampling techniques
C03	Knowledge about comparing various sampling techniques
C04	Carry out one way and two way Analysis of Variance
C05	Understand the basic terms used in design of experiments
C06	Use appropriate experimental designs to analyze the experimental data.

APPLIED STATISTICS

CO#	Course Outcome
C01	Time series data, its applications to various fields and components of time series,
C02	Fitting and plotting of various growth curves such as modified exponential, Gompertz and logistic curve
C03	Fitting of trend by Moving Average method
C04	Measurement of Seasonal Indices by Ratio-to-Trend , Ratio-to-Moving Average and Link Relative methods
C05	Applications to real data by means of laboratory assignments

C06	Interpret and use a range of index numbers commonly used in the business sector
C07	Perform calculations involving simple and weighted index numbers 8)
C08	Understand the basic structure of the consumer price index and perform calculations involving its use
C09	Various data collection methods enabling to have a better insight in policy making, planning and systematic implementation
C010	Construction and implementation of life tables
C011	Population growth curves, population estimates and projections
C012	Real data implementation of various demographic concepts as outlined above through practical assignments.

SEMESTER -V

SAMPLING TECHNIQUES AND DESIGN OF EXPERIMENTS

CO#	Course Outcome
C01	Introduced to various statistical sampling schemes such as simple, stratified and systematic sampling.
C02	. An idea of conducting the sample surveys and selecting appropriate sampling techniques
C03	Knowledge about comparing various sampling techniques
C04	Carry out one way and two way Analysis of Variance
C05	Understand the basic terms used in design of experiments
C06	Use appropriate experimental designs to analyze the experimental data.

SEMESTER -V

QUALITY AND RELIABILITY

CO#	Course Outcome
C01	To define 'quality' in a scientific way
C02	To differentiate between process control and product control
C03	To speak about quality awareness in industry
C04	To pave a path to an industry to meet the standards
C05	To effectively implement various plans to control the quality standards at various stages of an industry.
C06	To know about the Reliability, failure rates and Hazard rates of life

SEMESTER -VI

OPTIMIZATION TECHNIQUES

CO#	Course Outcome
C01	Discuss the formulation of linear programming problems, graphical solution and general solution of linear programming problem.
C02	Describe simplex method and two- phase method, Big- M method and to resolve degeneracy in linear programming problem, solved problems in simplex method
C03	Explain the concept of duality in linear programming and comparison of the solutions of the dual and primal

SEMESTER -VI

OPERATIONS RESEARCH- 8A (CLUSTER ELECTIVE)

CO#	Course Outcome
C01	Discuss the revised simplex method with example problems.
C02	Knowledge about the transportation problem with complete solutions of them.
C03	Discuss the Assignment models and Travelling sales man problems
C04	Discussing about the job sequencing problems with real time problem to estimate the elapsed times

SEMESTER -VI

OPERATIONS RESEARCH - 8B (CLUSTER ELECTIVE)

CO#	Course Outcome
C01	To discuss about strategies and various methods of solving games.
C02	Concept of inventory and ER models.
C03	Concept of Network diagram and critical path technology with problems

SEMESTER -VI

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.