

**Dr. V. S. KRISHNA GOVT. DEGREE COLLEGE (A), VISAKHAPATNAM.**

**DEPARTMENT OF STATISTICS**

**Course Outcomes paper wise:**

**Paper 1 : DESCRIPTIVE STATISTICS**

1. Know about the role of statistics in different fields with special reference to business and economics.
2. Get the knowledge of measures of dispersion.
3. Basic idea of probability.
4. Get the knowledge of Random Variable, Mathematical Expectation

**Paper 2 : PROBABILITY THEORY AND DISTRIBUTIONS**

1. Distinguish between random and non-random experiments,
2. Get the knowledge to conceptualize the probabilities of events including frequenters and axiomatic approach. Simultaneously, they will learn the notion of conditional probability including the concept of Bayes' Theorem,
3. Relate to concept of discrete and continuous random variables and their probability distributions including expectation and moments,
4. Knowledge of important discrete and continuous distributions such as Binomial, Poisson, Geometric, Negative Binomial and Hyper-geometric, normal, uniform, exponential, beta and gamma distributions,
5. Acumen to apply standard discrete and continuous probability distributions to different situations.

**Paper 3 : STATISTICAL INFERENCE**

1. Learn standard sampling distributions like Chi Square, t and F and their characteristics and applications
2. Know different techniques of point estimation for estimating the parameter values of population and interval estimation for population parameters.
3. Get the knowledge of various topics of Inferential Statistics such as interval estimation, Testing of Hypothesis, large sample tests (Z-test), small sample tests (t-test, F-test, chi-square test) and non-parametric tests are dealt with. These techniques play an important role in many fields like pharmaceutical, agricultural, medical etc.

**Paper 4 : SAMPLING TECHNIQUES AND DESIGN OF EXPERIMENTS**

1. Introduced to various statistical sampling schemes such as simple, stratified and systematic sampling.
2. an idea of conducting the sample surveys and selecting appropriate sampling techniques,
3. Knowledge about comparing various sampling techniques.
4. carry out one way and two way Analysis of Variance,
5. understand the basic terms used in design of experiments,
6. use appropriate experimental designs to analyze the experimental data

## **Paper 5 : APPLIED STATISTICS**

1. Get the knowledge of time series.
2. Basic idea of seasonal component, growth curves.
3. Get the knowledge of Index Numbers.
4. Understand the vital statistics.

### **Program Specific Outcomes:**

1. Acquire core knowledge of the basic concepts of statistics which include the major areas of probability theory, probability distributions, distribution theory, statistical inference, survey sampling, designs of experiments, applied statistics, mathematical methods, non- parametric inference and operations research.
2. Students learn to design data collection plans and basic tools of descriptive statistics.
3. Student learn to i) identify the relationship between two variables using scatter plot ii) Interpret a sample correlation.
4. Students learn different types of continuous distribution with their properties and applications.
5. Understand the concept of sampling distribution of a statistic and its properties, difference between parameter and statistic.
6. Students are able to describe the properties of unbiasedness. They are also learning to identify the null hypothesis, alternative hypothesis and test statistic. Students are able to i) explain the different meanings of the quality concept and its influence.
7. Practical exercises done will enable students to analyse and interpret data and also to draw valid conclusions. This will enable students to face real time applications.
8. Apply the concepts of statistics, Operations Research, Probability theory, Time Series, Designs of Experiment, etc. in real life problems.
9. Understand the applications of statistics concept in other disciplines such as mathematics, physics, economics, etc.
10. Provides a platform for pursuing higher studies leading to Post Graduate or Doctorate degrees.