

**DEPARTMENT OF STATISTICS**  
**GOVT. ARTS COLLEGE, ARYALUR - 621 713**

**COURESE OUT COME**

**Descriptive Statistics (16SCCBS1)**

- CO1 Organize, manage and present data.
- CO2 Analyze statistical data graphically using frequency distributions and cumulative frequency distributions.
- CO3 Analyze statistical data using measures of central tendency, dispersion and location.

**Probability Theory (16SCCBS2)**

- CO1 Use the basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events.
- CO2 Translate real-world problems into probability models.
- CO3 Derive the probability density function of transformation of random variables
- CO4 Calculate probabilities, and derive the marginal and conditional distributions of bivariate random variables.
- CO5 Analyze Statistical data using MS-Excel

**Theoretical Discrete Distributions (16SCCBS3)**

- CO1 Use discrete and continuous probability distributions, including requirements, mean and variance, and making decisions.
- CO2 Define binomial outcomes and compute probability of getting X successes in N trials.
- CO3 Identify the characteristics of different discrete and continuous distributions.
- CO4 Identify the type of statistical situation to which different distributions can be applied.
- CO5 Use Poisson, exponential distributions to solve statistical problems.

## Theoretical Continuous Distributions (16SCCBS4)

- CO1 Use the normal probability distribution including standard normal curve calculations of appropriate areas.
- CO2 Partial differential equations used to formulate problems involving functions of several variables, used to create a computer model.
- CO3 This subjects the recent progress in linear and nonlinear partial differential equations. The real life of partial differential equations is heat and mass transfer and electrometric theory

## PROGRAM SPECIFIC OUTCOME

### B Sc STATISTICS

**By the end of a degree program in Statistics, a student will:**

- PSO1 Have the **versatility** to work effectively in a broad range of analytic, scientific, government, financial, health, technical and other positions.
- PSO2 Have a **broad background** in statistics, an appreciation of how its various sub-disciplines are related, the ability to use techniques from different areas, and an **in-depth knowledge** about topics chosen from those offered through the department.
- PSO3 Recognize the importance and value of mathematical and statistical thinking, training, and approach to problem solving, on a diverse variety of disciplines;
- PSO4 Be familiar with a variety of examples where mathematics or statistics helps accurately explain abstract or physical phenomena;
- PSO5 Recognize and appreciate the connections between theory and applications;
- PSO6 Be able to independently read statistical literature of various types, including survey articles, scholarly books, and online sources
- PSO7 Be life-long learners who are able to independently expand their statistical expertise when needed, or for interest's sake.

## **PROGRAM OUTCOME**

### **B Sc Statistics**

- PO1 Find employment utilizing their statistical knowledge.
- PO2 Use statistical knowledge to identify and solve problems.
- PO3 Undertake graduate studies related to statistics.
- PO4 convert a problem description into testable research hypotheses.
- PO5 select appropriate statistical tools to investigate a research hypothesis.
- PO6 apply appropriate statistical methodology and interpret results in a variety of settings.
- PO7 apply likelihood principles and calculus to derive fundamental results in Probability, estimation and hypothesis testing.
- PO8 select standard experiment designs, with consideration of selection process, data Collection, issues of bias, causality and confounding, based on specifications of a scientific study.
- PO9 write code to extract and reformat real data and to utilize statistical programming Environments.
- PO10 identify limitations to statistical results and avoid misleading quantitative analysis.
- PO11 Effectively present statistical findings to an audience lacking statistical expertise And work collaboratively.