

17HS057 Applied Statistics

COURSE DESCRIPTION AND OBJECTIVES

Communicate and present statistical ideas clearly in oral and written forms using appropriate technical terms and deliver data analysis results to non-statistical audience. Students will demonstrate their ability to apply statistics in other fields at an appropriate level and demonstrate their ability to apply knowledge acquired from their major to real world models. To present statistical systems in India and different organizations deals data. To make a proficient in collection, organization, design, and drawing inferences from data using appropriate statistical methodology and problem-solving skill with different statistical techniques.

COURSE OUTCOMES

After the completion of the course, the student will be able to achieve the following outcomes:

COs	Outcomes
1	Students will have a solid foundation of mathematical processes.
2	Apply different statistical techniques for a given data using Time series
3	Assess cost of living for a group of people with index numbers
4	Discuss different demographic measures for analysis
5	Give the Statistical system in India

SKILLS

- ✓ Can study the trends of business data with time series and its components
- ✓ Construct a cost of living index for a group of people
- ✓ Calculate statistical measures relating to vital events
- ✓ Describe anatomy of Statistical system in India

Unit-I

Analysis of times series: Components of times series: meaning and examples, trend by least squares (straight line and parabola) methods and moving average methods. Seasonal indices by simple averages, ratio to moving average, ratio to trend and link relative methods.

Unit-II

Index numbers: Meaning, problems involved in the construction of index numbers, simple and weighted index numbers. Criteria of good index numbers. Fixed base and

chain base index numbers. Cost of living index numbers, wholesale price index numbers, Base shifting, splicing and deflation of index numbers.

Unit-III

Official Statistics: Functions and organization of CSO and NSSO. Agricultural, area, yield of statistics, national income and its computation.

Unit-IV

Vital statistics: Meaning, Definition, uses, sources of vital statistics, various Death rates-CDR,ASDR,STDR and Birth rates -CBR,ASFR,TFR.

Unit-V

Reproduction Rates: Measurement of population growth, crude rate of natural increase, Pearle's vital index, Gross Reproduction Rate[GRR], Net Reproduction Rates[NRR], Life tables, construction uses of life tables and abridged life Tables.

Text Books:

1. Fundamentals of applied statistics : VK Kapoor and SC Gupta.
2. BA/BSc III year paper - III Statistics - applied statistics - Telugu academy by prof.K.Srinivasa Rao, Dr D.Giri. Dr A.Anand, Dr V.Papaiah Sastry.

Reference Books:

- 1.Indian Official statistics - MR Saluja.
- 2.Anuvarthita Sankyaka Sastram - Telugu Academy.

17HS057A Applied Statistics Lab

1. Measurement of Linear Trend
2. Measurement of Seasonal Indices-Link Relatives method
3. Reversal tests.
4. Cost of living Index Numbers.
5. Mortality, Fertility & Re-production rates.
6. Life tables.