BACHELORS WITH STATISTICS AS MAJOR
6th SEMESTER
STS622J1 STATISTICS _ STATISTICAL COMPUTING-I

CREDITS: 3 THEORY +1 PRACTICAL
THEORY: 45 HOURS & PRACTICAL: 30 HOURS

COURSE OBJECTIVES:
To express the students to the real-life skill for statistical computing analysis and graphical interpretation using software skill. Hands on training on the real-life problems can be done on any one of the statistical software/excel to enhance data analysis skills.

COURSE OUTCOMES:
After completing this course, students must be able:
- *To understand the Graphical representation of data sets.*
- *To understand the descriptive statistics and Correlation analysis.*
- *To understand the usages of statistical and computational software's.*

THEORY: 03 CREDITS

UNIT-I
Introduction to Computers: Historical evolution of Computers. Generations of Computers. Classification of Computers, Applications of Computers, Computer Memory: Primary and Secondary Memory, Hardware: CPU, I/O Devices.

UNIT II
Word Processing: Creating and Saving a Document, Editing the Text: Printing, Saving and Importing Documents. Basics of Excel: Data Entry, Data sorting, Data validation, filtering of data, built in statistical and Mathematical Functions in Excel.

UNIT III
Diagrammatic and Graphical representation of Data in excel: bar diagrams and pie diagrams, Histogram, frequency Polygon, frequency curve, Working with data manipulation, descriptive statistics, simple Correlation.

PRACTICAL: 01 CREDIT USING STATISTICAL / COMPUTATIONAL SOFTWARE'S
  I.   Problems based on graphical representation of data by bar diagrams and pie diagrams
  II.   Problems based on graphical representation of data by Histogram
  III. Problems based on graphical representation of data by Frequency polygons,
  IV.   Problems based on calculation of Measures of Central Tendency.
  V.   Problems based on calculation of Measures of Dispersion.
  VI.   Problems based on calculation of Correlation.

BOOKS RECOMMENDED:
  1. Moore, D.S. and McCabe, G.P. and Craig, B.A.: Introduction to the Practice of Statistics, W.H. Freeman, (2014).
  2. Cunningham, B.J: Using SPSS: An Interactive Hands-on approach, (2012).
  3. Cho, M. J., Martinez, W.L.: Statistics in MATLAB: A Primer, Chapman and Hall/CRC, (2014).
  4. E.J. Dudewicz and S.N. Mishra: Modern Mathematical Statistics, Willy, Int'l Students edition, (1988).
  5. John Verzani: Using R for Introductory Statistics. Chapman & Hall/CRC, (2005).
  6. S.C. Gupta and V.K. Kapoor: Fundamentals of Mathematical Statistics, Sultan Chand & Sons, (2012).