



PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Autonomous
 Siddhartha Nagar, Vijayawada-520010
Re-accredited at 'A+' by the NAAC

23ANS DP102: STATISTICAL DATA ANALYSIS USING R PROGRAMMING LAB

Offered to: All UG Programs

Semester: II

30Hours

Credits:2

Course Type: Practical – SDC

Prerequisite: (bridge course title with course code)

Course Objective

1. To make the students familiar with R – programming.
2. To educate students on graphical analysis using various plots.
3. To understand the students to implement Regression models using R.
4. To understand the students to implement Sampling methods using R.
5. To educate the students on Time Series Analysis.

Course Outcomes

CO1: To select the data by loading into R and spot problems in data loaded. **(PO4, PO5, PO6)**

CO2: To identify the document and transfer the results and communicate the findings using visualization techniques. **(PO5, PO6)**

CO3: To construct the organize data in R with Co-relation and Regression. **(PO4, PO5)**

CO4: To examine the organized data in R with Sampling. **(PO4, PO5, PO6)**

CO5: To develop Time Series Analysis. **(PO4, PO5, PO6)**

Mapping of Course Outcomes (COs) with Programme Outcomes (POs) & PSOs

CO	BTL	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
CO1	L3				L	M	H			
CO2	L3					H	H			
CO3	L3				H	H				
CO4	L4				M	H	H			
CO5	L3				L	H	M			

List of Experiments

S. NO	SYLLABUS
1	Installation and Introduction to R programming, R-Base, R Studio, R Packages.
2	Basic R programming Calculations (Athematic, Mathematical and logical) Data Types, Data Structures, General functions, Looping functions.
3	Descriptive Statistics in R, Statistical functions,
4	Data Visualization in Base R (Uni-variant, Bi-variant, Multi-Variant, Lattices, ggplot2)

5	ANOVA (One way, Two way)
5	Simple and Multiple Co-relation analysis
6	Simple and Multiple Regression model.
7	Logistic regression
8	Simple, Stratified and Cluster Random sampling
9	Time Series Analysis Forecasting – Definition, Types, Components.
10	Decomposition of Time series – Additive, Multiplicative models
11	Simple Time Series Forecasting models – Simple moving average, exponentials moving models.

Websites of Interest:

1. https://nbisweden.github.io/workshop-r/2011/slide_elements_1.pdf
2. <https://www.guru99.com/r-tutorial.html> <https://www.javatpoint.com/r-tutorial>
3. https://cran.r-project.org/doc/contrib/Paradis-rdebuts_en.pdf

Text Books:			
S. No	Author	Title	Publisher
1	Robert Kabacoff	‘R’-in action - Data Analysis and Graphics with R	MANNING Publication
2	Michael J. Crawley	“The R Book”	John Wiley & Sons

Question Paper Pattern for Practical Course

SEE (LAB) Model Question Paper

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Offered to: ALL UG Programs

Max. Marks: 50

Max. Time: 3Hrs

Pass. Min: 20

(A) Evaluation Procedure

35

Marks

I Experiments (Exam & Execution)

30 Marks

II Viva

3 Marks

III Record

2 Marks

(B) CONTINUOUS ASSESMENT(Internal)

15

MARKS

15 marks for the continuous assessment (Day to day work in the laboratory shall be evaluated for 15 marks by the concerned laboratory teacher based on the regularity/record/viva). Laboratory teachers are mandated to ensure that every student completes 80%-90% of the lab assessments.

TOTAL: (A)+(B) = 50

MARKS
