

**III B.Tech – I Semester
(17CS512) R PROGRAMMING LAB**

Int. Marks	Ext. Marks	Total Marks	L	T	P	C
60	40	100	-	-	3	2

Pre-Requisites:

Lab Session:

1. Install R Studio Environment Setup.
2. Implement R Programs to create data set using Vector, List and Matrices.
3. Implement R Program to Store data using Arrays.
4. Implement R program to store dataset using Data Frame.
5. Implement R Programs for Loops and Control Statements.
6. Implement R program for functions.
7. Implement R Program to Use built in graphical functions.
8. Implement R commands for probability distributions.
9. Implement built in R functions for sample statistics and Statistics tests.
10. Implement R Program to predict data using Linear Regression model.

Projects:

1. Mini project on descriptive statistics.
2. Mini project on Discrete Probability Distributions.
3. Mini project on Continuous Probability Distributions.
4. Mini project on testing of hypothesis.
5. Mini project on ANOVA – I way classification.
6. Mini project on ANOVA – II way classification.
7. Mini project of Correlation analysis.
8. Mini project on Regression analysis.
9. Mini project on Multiple Linear Regression.

Course Outcomes:

1	Write R programs for various concepts like vectors,matrices,arrays,loops, control statements.	L3
2	Write R programs for functions, probability distributions, statistic applications, regression models.	L3

Correlation of COs with POs & PSOs:

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
CO-1	2	2	2	3	2	-	-	-	-	-	-	2	2	-	-
CO-2	2	2	2	3	2	-	-	-	-	-	-	2	2	-	-

Text Books:

1. Miller and John E. Freund, Probability and Statistics for Engineers, Prentice Hall of India.
2. G. Jay Kerns, Introduction To Probability And Statistics Using R, First Edition(Free E-Book From R Software Website)

Reference Books:

1. Jay L. Devore, Probability And Statistics For Engineering And Sciences, Eighth Edition, Cengage Learning.
2. R Cookbook, Paul Teetor, Oreilly.
3. R In Action, Rob Kabacoff, Manning.
4. R For Everyone, Lander, Second Edition, Pearson.
5. The Art Of R Programming, Norman Matloff, No Starch Press.
6. Probability And Statistics: Dr.T.K.V.Iyengar, Dr.B. K. Krishna Gandhi, S. Ranganatham, Dr. M.V.S.S.N. Prasad, S.Chand Publications.

Web Links:

1. https://onlinecourses.nptel.ac.in/noc17_ma17/preview
2. https://onlinecourses.nptel.ac.in/noc16_ma03/preview
3. <https://www.tutorialspoint.com/r/>
4. <http://www.stat.umn.edu/geyer/old/5101/rlook.html>
5. <http://www.r-tutor.com/elementary-statistics>