

I Year II Semester

Code	R-PROGRAMMING LAB	Marks	L	T	P	C
25MB2L01		50	0	0	4	2

UNIT-I:

All the theory content here below shall be executed with examples.

Introduction, How to run R, R Sessions and Functions, Basic Math, Variables, Data Types, Vectors, Conclusion, Advanced Data Structures, Data Frames, Lists, Matrices, Arrays, Classes.

UNIT-II:

All the theory content here below shall be executed with examples.

R Programming Structures, Control Statements, Loops, - Looping Over Non vector Sets, - If-Else, Arithmetic and Boolean Operators and values, Default Values for Argument, Return Values, Deciding Whether to explicitly call return- Returning Complex Objects, Functions are Objective, No Pointers in R, Recursion, A Quicksort Implementation-Extended Example: A Binary Search Tree.

UNIT-III:

All the theory content here below shall be executed with examples.

Doing Math and Simulation in R, Math Function, Extended Example Calculating Probability-Cumulative Sums and Products-Minima and Maxima- Calculus, Functions for Statistical Distribution, Sorting, Linear Algebra Operation on Vectors and Matrices, Extended Example: Vector cross Product- Extended Example: Finding Stationary Distribution of Markov Chains, Set Operation, Input /out put, Accessing the Keyboard and Monitor, Reading and writer Files,

UNIT-IV:

All the theory content here below shall be executed with examples.

Graphics, Creating Graphs, The Workhorse of R Base Graphics, the plot() Function –Customizing Graphs, Saving Graphs to Files.

UNIT-V:

All the theory content here below shall be executed with examples.

Probability Distributions, Normal Distribution- Binomial Distribution- Poisson Distributions Other Distribution, Basic Statistics, Correlation and Covariance, T-Tests,-ANOVA.

Note: From all the theory content above three examples from each unit has to be taken as lab exercises. Out of all the 15 programs, the lab exam has to be conducted.

Reference Books:

- 1) The Art of R Programming, Norman Matloff, Cengage Learning
- 2) R for Everyone, Lander, Pearson
- 3) R Cookbook, Paul Teetor, Oreilly
- 4) R Programming By Dr.T. Murali Mohan , S.Chand Publications.
- 5) Garrett Golemund, Hands on Programming with R, Oreilly

Signed by:

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