SKILL DEVELOPMENT COURSE

(DATA VISUALIZATION THROUGH R PROGRAMMING)

B. Tech II Year I Semester- CSE-DS
Course Code:

L	T	P	C
0	0	2	1

Course Outcomes:

At the end of this course, the student would be able to:
1. Apply operations on basic data types using R
2. Apply various operators on data frames, factors and list
3. Develop functions using iterative programming for real world problems
4. Analyse the data by plotting using R
5. Formulate linear and multiple regression models for time series data & web data

Week 1:

1. Write a R Program to create and name a Vector
2. Write a R program implement vector subsetting

Week 2:

1. Write a R Program to create and name a Matrix
2. Write a R program implement Matrix Subsetting

Week 3:

1. Write a R program to Access list elements and Manipulate list elements
2. Write a R program which converts list into a Vector

Week 4:

1. Write a R program to Control flow statements:
   i. If condition
   ii. If-else condition
2. Write a R program to implement Iterative statements:
   i. For loop
   ii. While loop
3. Write a R program to demonstrate usage of
   i. Repeat
   ii. Break
   iii. Return
   iv. Next

Week 5:

1. Write a R program to find reverse of a given number using functions
2. Write a R program to find factorial of a given number using recursion

Week 6:

1. Write a R program to demonstrate R Packages

Week 7:

1. Write a R program to calculate mean, median

Week 8:

1. Write a R program to implement
   i. Factor levels
   ii. Summarizing Factors
   iii. Comparing Ordered factors

Week 9:

1. Write a R program to implement
   i. Subsetting of Data Frames
   ii. Extending Data Frames
   iii. Sorting Data Frames

Week 10:

1. Write a R program to demonstrate
   1. Lapply()
   2. Sapply()
   3. Split()

TEXT BOOKS:

1. K.G. Srinivas, G.M. Siddesh "Statistical Programming in R", OXFORD Publications.
2. R Programming for Data Science by Roger D. Peng (References)
3. The Art of R Programming by Norman Matloff Cengage Learning India.