

### Lesson Plan (Data Analytics using R Lab)

**Name of Faculty** : Ms Anju Godara Assistant Professor of CSE  
**Discipline** : CSE (6<sup>th</sup> Semester)  
**Lesson Plan Duration** : 15 weeks (January 2024 to July 2024) Work Load  
**(Lecture/Practical) per week (in hours):** lecture:02 hours/Practical-04 hours

| Week | Theory/ Practical (Group-I/ II) |   | Topic Covered Date and Remarks |     |                    |
|------|---------------------------------|---|--------------------------------|-----|--------------------|
|      | Practical Day                   | Topics/ Programs  | Date                           | HOD | Director-Principal |
| 1st  | 1                               | Installation R studio and explore its GUI .   |                                |     |                    |
| 2nd  | 2                               | How to install R packages and also few basic commands to Get started. Like Install package, packge description,help ,find package etc.  |                                |     |                    |
| 3rd  | 3                               | Explore base R package datasets .Write a description of following dataset: Hair eye color ,Iris, Airquality, mtcars.  |                                |     |                    |
| 4th  | 4                               | *Program to create vector of a specified type and length. Create vector of numeric, complex, logical and character types of length 6.<br>* R program to add two vectors of integers type and length 3.<br>* R program to find Sum, Mean and Product of a Vector.  |                                |     |                    |
|      | 5                               | * Write a R program to find the levels of factor of a given vector.<br>* R program to create a factor corresponding to height of women data set, which contains height and weights for a sample of women<br>* R program to concatenate two given factor in a single factor.   |                                |     |                    |
| 5th  | 5                               | R program to create a list containing strings, numbers, vectors and a logical values.<br>R program to list containing a vector, a matrix and a list and give names to the elements in the list.<br>R program to create a matrix taking a given vector of numbers as input. Display the matrix.<br>R program to create two 2x3 matrix and add, subtract, multiply and divide the matrixes. |                                |     |                    |
|      |                                 | R program to call the (built-in) dataset airquality. Check whether it is a data frame or not? Order the entire data frame by the first and second column.<br>R program to create an empty data frame.   |                                |     |                    |
| 6th  | 6                               | Illustrate the use of control , looping statement and user define functions.  |                                |     |                    |
| 7th  | 7                               | R program to get the first 10 Fibonacci numbers.<br>R program to take input from the user (name and age) and display the values. Also print the version of R installation.  |                                |     |                    |
|      |                                 | Minor test 1 <sup>st</sup>  |                                |     |                    |
| 8th  | 8                               | Define different charts and writing the finding on basis of these charts.   |                                |     |                    |
| 9th  | 9                               | Work on hypothesis testing for descriptive and inferential statistics.  |                                |     |                    |
| 10th | 10                              | Predictive modeling using R packages .  |                                |     |                    |