SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
College of Engineering and Technology

Department of Electronics and Communication Engineering

18ECE3201J Python and Scientific Python
V Semester, 2022-23 (ODD Semester)

Name   :

Register No.   :

Venue   :

Title of Experiment   :

Date of Conduction   :

Date of Submission   :

Particulars	Max. Marks	Marks Obtained
Pre Lab	05	
Program	10	
Post Lab	5	
Output verification	15	
Viva	05	
Total	**40**	

REPORT VERIFICATION

Staff Name   : Dr. R. Jansi/ Dr. E. Chitra

Signature   :

4. Curve Plotting

4.1 Aim

1. To place the legend inside the plot on the top, bottom and inside
2. To place the legend on the bottom and change the legend()
3. To put the legend on top, change the bbox_to_anchor values:
4. Plotting multiple curves

4.2 Background

In this experiment, we have to use python to:

(i) Using matplotlib and Numpy modules, plotting a Single Curve, Decorating the Plot, Plotting Multiple Curves, Controlling Line Styles.

4.3 Software Used

1. Anaconda Navigator
2. Jupyter Notebook

4.4 Pre Lab Questions

1. What is the use of numpy packages in curve plotting?
2. List the operation of command linspace with an example.
3. How to animate a function in a python environment.
4. What is the use of the arrange() function?
5. How to plot multiple functions in a single plot?

4.5 Procedure

1. In Jupyter Notebook click on 'New Launcher' and then single click on 'Python3' under Notebook.
2. Type your program to get the desired output.
3. To view the output, click on 'Run' or press 'Shift+Enter' to execute the program of the selected cell. Note: In case of error, refer to the error message and do the required changes.

4.6 Program

Plot the graph for the following values
y = [2,4,6,8,10,12,14,16,18,20]
y2 = [10,11,12,13,14,15,16,17,18,19]

Exp. 4.6.1: To place the legend inside the plot

Code:

Output:

Exp. 4.6.2: To place the legend on the bottom, change the legend()

Code:

Output:

Exp. 4.6.3: To put the legend on top, change the bbox_to_anchor values:

Code:

Output:

Exp. 4.6.4: Plotting multiple curves

 # Plotting multiple curves in single figure

$F1(t)= t^2npe^{-t2}$

$F2(t)= t^2F1(t)$

Define these functions in modules and plot it.

Code:

Output:

4.7 Post Lab Questions

1. Give the command to place the legend inside, outside and bottom of the Curve.
2. What is the use of the subplot command?
3. How to plot more than 2 functions in a graph?