Course code	Course Title	L	T	P	C
PMDS508P	Python Programming Lab	0	0	4	2
Pre-requisite	Nil	Syllabus version			
		1.0			

Course Objectives

1. Explore problem-solving skills using Python programming and find solutions for real-time problems.
2. Acquire object-oriented programming skills in Python.

Course Outcomes

At the end of the course, the students will be able to

1. understand and comprehend the basic programming constructs of Python programming.
2. implement control statements for altering the sequential execution of programs in solving problems.
3. solve real-time problems using modular programming concepts.
4. develop programs for statistical processing of data using NumPy, Matplotlib, Scipy, and Pandas.

Indicative Experiments

1	Build applications using Operators and Expressions.
2	Build applications using Conditional IF-ELIF-ELSE statements).
3	Build applications using Looping (for, while loops).
4	Manipulations using Strings, Lists, Tuple, Sets and Dictionaries.
5	Create user-defined function Python scripts.
6	Create user-defined modules and import them into the programs.
7	Create data applications using array and matrix manipulations.
8	Build basic data visualizations using Matplotlib and interpret them.
9	Build programs to analyze the time series data using the SciPy module.
10	Build programs to manipulate the data and analyze it by Pandas module.
	Total Laboratory Hours **60 hours**

Text Book (s)

1	Reema Thareja, Python Programming using Problem Solving Approach, 2023, 2nd Edition, Oxford University Press.

Reference Book (s)

1	John Hunt, Advanced Guide to Python 3 Programming, 2023, 2nd Edition, Springer Cham.

Mode of evaluation: Assignment and FAT

Recommended by Board of Studies	15-02-2024		
Approved by Academic Council	No. 73	Date	14-03-2024