Year/Semester	I B. Tech/I Sem	L	T	P	C
Regulation Year	2020-21	0	0	3	1.5
Subject	Computational Thinking and Programming Lab				

Laboratory Experiments

Objectives:

- Get acquainted with fundamentals of writing **Python** scripts.
- Master core **Python** scripting elements by solving more number of problems
- Able to identify right data structure to solve the problem
- Design **Python** functions to facilitate code reuse.
- Gaining familiarity in Python file I/O

Week 1-3

- Design algorithms and flowcharts for given problems
- Python programs on decision and loop control statements
    - Whether the given number is even or odd
    - Maximum of three numbers
    - Sum of digits, Palindrome
    - Factorial of a number,
    - GCD of given numbers
    - Sum of first n natural numbers
    - Evaluate Cosine and Sine Series etc.

Week 4-6

- Exercise programs on lists and functions
    - Finding the sum and average of given numbers using lists.
    - To display elements of list in reverse order.
    - Finding the minimum and maximum elements in the lists.
    - Using functions to calculate power, factorial etc
    - Passing lists as function arguments
    - Call by value and call by referece
    - Recursion

Week 7-9

- Exercise programs on Strings.
    - Palendrome Checking
    - Count the number of characters, number of vowels etc in the given line of text etc
- Exercise programs on Tuples, Dictionaries

Week 10-12

- Exercise programs on file handling
- Exercise programs on regular expressions
- Exercise programs on exception handling