

OLMCA502	Python Programming		L	T	P	C
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Pre-requisite	NIL	Syllabus version				
		1.0				
Course Objectives:						
1. To Introduce the basics of Python programming.						
2. Ability to write python program with conditions and looping.						
3. Ability to manipulate various data structures with python.						
Course Outcomes:						
1. Differentiate the programming Language constructs appropriately to solve any problem.						
Solve various engineering problems using different data structures.						
2. Able to modulate the given problem using structural approach of programming.						
3. Efficiently handle data using flat files to process and store data for the given problem.						
Module:1	Introduction to Python basics					
Data Types, Python Interactive and script modes, Python programming with IDE and online compilers, Identifiers and literals, Keywords, Escape Sequences, Basic I/O with python. Developing "Hello India" with Python.						
Module:2	Python Programming Constructs					
Operators and Expressions, I/O formatting, Type Casting and conversions, Conditional statements, Iterative Statements, Python packages, Solving problems with conditions and Iterations examples.						
Module:3	String handling & Pattern Matching					
Mutable and Immutable concept in Python, Strings, Built in functions for String handling, Pattern matching, Pattern matching with Regular Expressions.						
Module:4	Lists and Tuples					
Slicing and Indexing, Lists, tuples, Difference between Tuples and lists.						
Module:5	Dictionaries and Sets					
Working with python Dictionaries, Sets, Case examples, Real world applications.						
Module:6	User Defined Functions					
User Defined Functions, Calling functions with arguments. Keyword arguments, positional arguments, Default Arguments, Recursive Functions.						
Module:7	Modules and Packages					
Built-in Modules, User-Defined Modules, Overview of NumPy and Pandas.						
	Total Lecture hours:					120 hours
Text Book(s)						
1.	Introducing Python, 2nd Edition by Bill Lubanovic, O'Reilly Media, 2019.					
Reference Books						
1.	John V. Guttag., 2016. Introduction to computation and programming using python: with applications to understanding data. PHI Publisher.					
2	Charles Severance.2016.Python for everybody: exploring data in Python 3, Charles Severance.					
Mode of Evaluation: Quiz / Assignment / Mid-Term, FAT						
Recommended by Board of Studies			15.11.2021			
Approved by Academic Council			No. 64	Date	16-12-2021	