

DAIDS-1-03T: Python Programming

Total Marks: 100
External Marks: 70
Internal Marks: 30
Credits: 6
Pass Percentage: 40%

Course: Python Programming	
Course Code: DAIDS-1-03T	
Course Outcomes (COs) After the completion of this course, the students will be able to:	
CO1	Explain the basic syntax and structure of Python programs.
CO2	Understand variables, data types, and basic operations.
CO3	Understand and use common programming constructs like loops and conditionals.
CO4	Define and use functions in Python.
CO5	Understand the basics of object-oriented programming in Python.

Detailed Contents:

Module	Module Name	Module Contents
Module I	Introduction to Python	Python installation and setup, Command line Basics; Python Objects and Data Structures Basics: Introduction to Python data types, Variable assignments, Numbers, String, String methods, Lists, Python Comparison Operators: Chaining comparison operators with logical operators, Pass Break and continue.
Module II	Program Flow Control in Python	If, Elif and Else statements in python, for loops, While loops
Module III	Functions in Python	Introduction to functions, Def keyword, User defined functions, arguments and parameters, Parameter naming in python
Module IV	Object Oriented Programming	Introduction, Classes and objects, attributes and methods, Inheritance and polymorphism, Special methods; Modules and Packages: Pip install and PyPi.
Module V	Use of Python Libraries	Utilize common Python libraries for specific tasks (e.g., NumPy for numerical computing, Pandas for data manipulation). Use libraries for data manipulation, analysis, and visualization.
Module VI	File handling in Python	Files in python, importing own files, Read and writing text files, working with CSV, XML and JSON files.

Books

1. Timothy Budd, "Exploring Python", TMH, 1st Ed, 2011
2. Allen Downey, Jeffrey Elkner, Chris Meyers, "How to think like a Computer Scientist: learning with Python", Green Tea Pr, 2002
3. Paul Barry, "Head First Python: A Brain-Friendly Guide", O'Reilly, 2nd ed. 2016
4. Udemy, <https://www.udemy.com/course/complete-python-bootcamp/>
5. Udemy, <https://www.udemy.com/course/python-the-complete-python-developer-course>