

Python Programming

Course Code	20CS3352	Year	II	Semester	I
Course Category	PCC Lab	Branch	CSE	Course Type	Practical
Credits	1.5	L-T-P	0-0-3	Prerequisites	Programming for Problem Solving
Continuous Internal Evaluation :	15	Semester End Evaluation:	35	Total Marks:	50

Course Outcomes

Upon successful completion of the course, the student will be able to		
CO1	Apply Python programming constructs for solving problems.	L3
CO2	Conduct experiments as an individual, or team member by using Python programming.	L3
CO3	Develop an effective report based on various programs implemented.	
CO4	Apply technical knowledge for a given problem and express with an effective oral communication.	L3
CO5	Analyze outputs generated through Python programming.	L4

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1													√	
CO2					√				√					
CO3										√				
CO4	√									√				
CO5			√											

Syllabus		
Expt No	Contents	Mapped CO
1.	Demonstrate the difference between interactive mode and IDEs	CO1,CO2,CO3,CO4,CO5
2.	Demonstrate programs using basic constructs of Python.	CO1,CO2,CO3,CO4,CO5
3.	Programs to demonstrate Programming constructs.	CO1,CO2,CO3,CO4,CO5
4.	Programs to demonstrate decision making and branching (Selection)	CO1,CO2,CO3,CO4,CO5
5.	Programs to demonstrate iterative statements.	CO1,CO2,CO3,CO4,CO5
6.	Build modular programs using functions.	CO1,CO2,CO3,CO4,CO5
7.	Programs to perform operations on strings, regular expressions with built – in functions.	CO1,CO2,CO3,CO4,CO5
8.	Implement programs using various data structures.	CO1,CO2,CO3,CO4,CO5
9.	Programs to demonstrate access specifiers.	CO1,CO2,CO3,CO4,CO5
10.	Programs to demonstrate types of Inheritance, polymorphism,	CO1,CO2,CO3,CO4,CO5
11.	Python programming to demonstrate Exception handling	CO1,CO2,CO3,CO4,CO5
12	Installing, importing accessing and computations on a dataset using Pandas library.	CO1,CO2,CO3,CO4,CO5
13	Installing, importing accessing and computations on a dataset using Numpy library.	CO1,CO2,CO3,CO4,CO5
14	Programs to demonstrate Files.	CO1,CO2,CO3,CO4,CO5
15	Installing, importing accessing and computations on a dataset using Matplotlib library	CO1,CO2,CO3,CO4,CO5

Learning Resources

Text Books

1. Python Programming using Problem Solving Approach, Reema Thareja, 2017, OXFORD University Press
2. Charles Severance: Python for Everybody, Exploring Data in Python 3, Creative Commons-2016
3. Jake VanderPlas: Python Data Science Handbook, Essential Tools for Working with Data, O_Reilly Media, 2016
4. Python Programming: Problem Solving, Packages and Libraries, Anurag Gupta and G.P. Biswas,2020, McGraw Hill

Reference Books

1. Core Python programming, R. NageswaraRao, 2018, Dreamtech press.
2. Programming with python, T R Padmanabhan, 2017, Springer.
3. Edouard Duchesnay: Statistics and Machine Learning in Python Release 0.2, 2018
4. Wes McKinney: Python for Data Analysis, Agile Tools for Real World Data, O_Reilly Media, 2013

Resources & other digital material

1. NPTEL Course: Programming, Data Structures and Algorithms using Python, Registration Link:
<https://nptel.ac.in/courses/106/106/106106145/>
2. Coursera: Introduction to Python Programming, Registration link:
<https://www.coursera.org/learn/python-programming-intro>