



**Charotar University of Science and
Technology**
**Devang Patel Institute of Advance Technology and
Research (DEPSTAR)**
Department of Computer Engineering



Subject: Programming in Python

Semester: 4

Subject Code: CE259

Academic Year: 2022-23

Course Outcome (COs):

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

1. Interpret the fundamental python syntax, semantics and fluent in the use of python control flow statements. Express proficiency in the handling of strings and functions.
2. Determine the methods to create and manipulate python programs by utilizing the data structures like lists, dictionaries, tuples and sets.
3. Identify the commonly used operations involving file systems and regular expressions.
4. Articulate the Object-Oriented Programming concepts such as encapsulation, inheritance and polymorphism as used in Python along with magic methods.

Practical List

Sr. No.	AIM	Hrs	COs
1	1.1 Introduction to Python Programming. Installation & Configuration of Python. Along with its all-major editors, IDLE, Pycharm, Anaconda, Jupyter, Interpreter etc.	02	1
	1.2 Write a python program to calculate simple interest.		
2	2.1 Create a list and apply methods (append, extend, remove, reverse), arrange created list in ascending and descending order.	03	2
	2.2 List1 = [1, 2, 3, 4, ["python", "java", "c++", [10,20,30]], 5, 6, 7, ["apple", "banana", "orange"]] From above list get word “orange” and “Python” & repeat this list five times without using loops.		
	2.3 Create a list and copy it using slice function.		
	2.4 Create a tuple and apply different type of mathematical operation on it (Sum, Maximum, minimum etc.).		
3	3.1 String Operations: <ul style="list-style-type: none">• Reverse a string, replace string with other string, merge two strings).• Find character is in string or not without using loops.• Split string into multiple words.	03	1,2
	3.2 Dictionaries Operations: <ul style="list-style-type: none">• Apply “Update, Delete, clear, pop item, pop, get, keys and values” operation in dictionary.• Create 3 dictionaries and merge them into 1 dictionary.		
4	4.1 These all programs should be done by declaring a function. Found which grade student will get based on SGPA.	04	1
	4.2 Find max from three numbers.		
	4.3 Calculate number of Uppercase and lowercase letters of string given by user.		
	4.4 Find a Square of a given list using lambda function.		
	4.5 Enter value from user and print multiplication table.		
	4.6 Create a list by user given value and make sum of it using loop.		
	4.7 Use comprehension method <ul style="list-style-type: none">• Create a two separate list of even and odd numbers from 1 to 50.• Get value which are divided by 5 from 1 to 100.		
5	5.1 Create a class employee and display employee details	04	4
	5.2 From above create class count number of employee and display a salary amount if the salary is raised to 1.04%.		



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	5.3 Fetch children class details using different types of inheritance (Single, Multilevel, and Multiple) With constructor.		
	5.4 Find who will be first among two students using polymorphism.		
6	6.1 Consider an example of declaring the examination result. Design three classes: Student, Exam, and Result. The Student class has data members such as those representing rollNumber, Name, etc. Create the class Exam by inheriting Student class. The Exam class adds fields representing the marks scored in six subjects. Derive Result from the Exam class, and it has its own fields such as total marks. Write an interactive program to model this relationship.	04	1,4
7	7.1 Create a different package of addition, division, multiplication, subtraction, factorial, and Fibonacci-series and use it in result.py file.	04	1,3,4
	7.2 Different type of pandas and NumPy operations, and create charts using matplotlib.		
8	8.1 Perform below operations <ul style="list-style-type: none">• Create database• Create table• Database Version• Delete operation• Insert data to the database• Select data from the database• Update data in database	06	3,4