

Assignment No- 3
Programming in Python(UGCA-1914)

Date of issue: October 10, 2023

Date of submission: October 23, 2023

Note: Kindly note that each question has weightage of 10 marks.

1. Discuss the object oriented nature of Python. Explain how classes are designed and how objects are created.
2. Design a class student that can store the information of student and display the same.

OR

Write Python program to calculate the Arc Length of an Angle by assigning values to the radius and angle data attributes of the class ArcLength.

3. What do you understand by the term arguments? How do we pass them to a function? “Arguments may be passed in the form of expressions to the functions”. Justify this statement with the help of a program.
4. a) Define recursion. Write a Python program to compute the factorial of a given number using recursion.
b) Explain lambda function in Python with suitable example.
5. What do you mean by User defined function? Discuss pass by value and pass by reference methods of passing arguments to a function. Explain using Python programs.
6. a) Write note on docstrings.
b) Explain the use of return statement in functions.
c) Write note on namespace. Explain local and global variables in Python.
- 7 a) What is the purpose of ‘self’ in Python.
b) Explain Garbage collection in Python. What is the need of destroying objects?
8. Write Python programs to demonstrate any two types of inheritance such as Multiple Inheritance, single inheritance, hierarchical inheritance etc.

OR

Create a class of your choice. Define an appropriate constructor of this class. Also define destructor for this class.

9. Write a Python program to calculate area and perimeter of different shapes using polymorphism.

OR

Write a python program to overload arithmetic operators