**NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA**

**SEMESTER-EVEN**

**UNIT: 3 ASSIGNMENT 3**

**Subject Name:** Problem Solving Using Advance Python

**Name of Faculty: Submission Date:\_\_\_\_\_\_\_\_**

1. What is functional Programming? How well does Python support Functional Programming?
2. Write a short note on :-

a)    List comprehension

b)    Dictionary comprehension

c)    Decorators

1. What do you understand by Python closures? What are the benefits of closures?
2. Describe the role of generators with its advantages. Write a program to illustrate the use of generator by creating a generator that reverses a string.
3. How to create a coroutines in python. Explain its importance and advantages with an example.
4. How to create your own iterators using \_\_iter\_\_() and \_\_next\_\_() methods.
5. How differently does Python treat mutable and immutable objects?
6. Differentiate between
7. generator and coroutine
8. generator statement and list comprehension
9. Write a program:
10. to double the number in a list [2,3,4,5,6,7] using map() function.
11. to calculate the length of strings in a list using map() function.
12. that filters out the odd number from the given list.
13. to find smallest element of a list using reduce() function.
14. Briefly describe the declarative style of programming.