

PGDCSA (Rep) Sem.-2 Examination
Object Oriented Programming Using Python
February-2025

Time : 3-00 Hours]

[Max. Marks : 50

Instructions:

- **Write both the Sections in the separate answer book.**
- **Both Sections having equal weightage.**
- **Draw Diagrams wherever necessary.**
- **Make Assumptions wherever necessary.**

SECTION – I

- Q-1 Explain the following function with syntax and example: 09**
- a. range()
 - b. append()
 - c. sort()
- Q-2 Attempt the following : (Any Two) 08**
- a. Describe how iteration works in Python with the help of a for loop and a while loop. Write an example for each.
 - b. Define a function in Python. Explain user-defined functions.
 - c. Explain recursion with an example to find the sum of the first n natural numbers.
- Q-3 Attempt the following : 08**
- a. Explain the concept of classes and objects in Python. Write a Python program to define a class for a rectangle with methods to calculate its area and perimeter.
 - b. What is the use of break, continue and pass statements? Explain with an example.
- OR**
- Q-3 Attempt the following:**
- a. Describe garbage collection in Python and how it manages memory. Provide an example of object creation and deletion.
 - b. Write a Python program to demonstrate multiple inheritance with appropriate class definitions and usage.

(P.T.O)

SECTION – II

- Q-4 Explain the following Terms with an appropriate example. 09**
- Dictionaries
 - String slicing
 - Sets
- Q-5 Attempt the following: (Any Two) 08**
- What are multidimensional lists? Write a program to create a 3x3 matrix and perform matrix addition.
 - Explain the concept of tuples in Python. Write a program to demonstrate arbitrary argument lists using tuples.
 - What is exception handling? Explain with example.
- Q-6 Write a note on following: (Any Two) 08**
- File objects
 - GUI Programming
 - Features of Python
