Code No: 50012/R20

FACULTY OF SCIENCE

B.Sc. **CBCS** I-Year (II-Semester) Regular Examinations, August-2023

Data Science-II

(Problem Solving and Python Programming)

Time: 3 Hours Max Marks: 80

SECTION-A (4x5=20 Marks)

(Short Answer Type)

Answer any Four questions from the following

1. Define algorithm and explain its importance in problem solving.
2. Explain the Building Blocks in Algorithm.
3. Explain Slicing Operations with Respect to Strings.
4. Explain the importance of Command Line Arguments.
5. List 4 different Tuple Operations.
6. Write about List loop.
7. Define Class and Object.
8. Define Inheritance.

SECTION-B (4x15=60 Marks)

(Essay Answer Type)

Answer the following questions

9. (a) Discuss the arithmetic operators and type conversions in Python.

(OR)

(b) Discuss about Control Flow Statements in Python and write a program to check whether the given number is even or odd.

10. (a) Describe the fundamental operations and methods available for string manipulation in Python.

(OR)

(b) What is a Function? Explain Built-in-Functions and Commonly used modules in Python.

11. (a) Define dictionaries in Python. Discuss their operations and methods and provide examples for each operation.

(OR)

(b) How can files be read and written in Python? Discuss the different file handling operations and the format operator used for I/O.

12. (a) Discuss the concept of inheritance in OOP and its implementation in Python with example.

(OR)

(b) Explain different Lamda functions in Python. Explain their purpose and provide examples for illustrate their usage in functional programming.