

END SEMESTER EXAMINATION : NOVEMBER 2023**SEMESTER 3 : INTEGRATED M.Sc. PROGRAMME COMPUTER SCIENCE - DATA SCIENCE****COURSE : 21UP3CRMCP8 : PROGRAMMING IN PYTHON***(For Regular - 2022 Admission and Improvement/Supplementary - 2021 Admission)*

Time : Three Hours

Max. Weightage: 30

PART A**Answer any 8**

1. Let the variable x be "dog" and the variable y be "cat". Write the values returned by the following operations:

```
print (x + y)
print( "the " + y + " chases the " + x)
```
2. Array creation in python is based on the object called _____.
3. Write an example of a lambda function in python.
4. Define the term operator.
5. State the main drawback of executing a script from the IDLE window.
6. Give an example for an exception.
7. Write the statement that prints the first 10 rows of a dataset.
8. Write a statement that prints a string from its fifth position onwards.
9. The term _____ refers to the rules for forming sentences in a language.
10. Predict the output of the following code:

```
list=['abcd', 786, 2.23, 'Tom', 70.2]
print(list[-2])
```

(1 x 8 = 8 Weight)**PART B****Answer any 6**

11. Define tuple in python. Explain how tuples are created.
12. Differentiate between `loc` and `iloc` parameters in a dataframe.
13. Explain `arange()` function with an example.
14. Write a python program that displays your name, address, and telephone number.
15. Discuss the use of `clear()` in sets. Also, explain how it differs from `del` keyword.
16. With a program, explain `nested if` statement.
17. Explain how exceptions are handled with `try-except` block.
18. Discuss the use of an `else` block in exception handling.

(2 x 6 = 12 Weight)**PART C****Answer any 2**

19. With an example, explain how constructors are used in derived classes.
20. Write a program that prints prime numbers within a range.
21. Create a CSV file to store the details of 10 students with columns - RollNo, Name, Marks. Create a bar plot and a scatter plot in a single frame, plotting the relationship between name and marks.
22. Write a program to multiply two matrices using `numpy` library.

(5 x 2 = 10 Weight)