

END SEMESTER EXAMINATION- OCTOBER 2025**SEMESTER 3 : INTEGRATED M.Sc. PROGRAMME COMPUTER SCIENCE - DATA SCIENCE****COURSE : 21UP3CRMCP08 : PROGRAMMING IN PYTHON***(For Regular - 2024 Admission and Improvement/Supplementary 2023/2022/2021 Admissions)*

Time : Three Hours

Max. Weightage: 30

PART A**Answer any 8 questions**

1. Predict the output of the following code:

```
import numpy as np
a = np.arange (10)
print (a[:-6])
```
2. The term _____ refers to the rules for forming sentences in a language.
3. Write an example of a sample string declaration.
4. Predict the output of the following code:

```
list=['abcd', 786, 2.23, 'Tom', 70.2]
print (list[-2])
```
5. Define the term constructor in a class.
6. Define lambda function in python.
7. List any two standard exceptions in python.
8. Write the statement that prints the first 10 rows of a dataset.
9. Comments are indicated in python with _____color.
10. Write a sample statement that can be written as a single statement suite.

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

11. List the properties of sets in python.
12. Discuss the use of `with` statement in python.
13. Write the syntax and draw the flowchart of an if-else statement.
14. Write a sample program to create a pie chart showing literacy levels of any 5 states in India.
15. Define dictionary in python. Explain how dictionary elements can be accessed.
16. Write a simple program to visualize the relationship between age and height.
17. Make short notes on the print function.
18. Explain how exceptions are handled with try-except block.

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

19. Write a program to implement multilevel inheritance in python.
20. Create a dataset – weather.csv that stores the weather information of your city of the previous week, which includes the columns – date, temperature, WindSpeed, humidity, Precipitation, and AQI. Display the details and plot:
 - (i). scatter diagram showing the temperature of each day
 - (ii). line chart showing temperature vs humidity

21. Write a program to multiply two matrices using numpy library.
22. Explain various looping and control statements in python with an example.
(5 x 2 = 10 Weight)