

END SEMESTER EXAMINATION - OCTOBER 2024**SEMESTER 3 : INTEGRATED M.Sc. PROGRAMME COMPUTER SCIENCE - DATA SCIENCE****COURSE : 21UP3CRMCP8 : PROGRAMMING IN PYTHON***(For Regular 2023 Admission and Improvement/Supplementary 2022/2021 Admissions)*

Time : Three Hours

Max. Weightage: 30

PART A**Answer any 8**

1. Define the term identifier in python.
2. Discuss the use of indentation in python.
3. List any two examples of open source scripting languages.
4. Find the output of the following code:

```
dict = {'Name':'Annie', 'Age': 22}
dict1 = {'Gender':'F', 'Marks':423}
dict1.update(dict)
print(dict)
```
5. Write the name of class functions that are used for the following purposes:
(a). To check whether an attribute exists or not.
(b). To remove an attribute.
6. Array creation in python is based on the object called _____.
7. Evaluate the following code at a shell prompt:

```
print ("Your name is", name )
```


Then assign name an appropriate value and evaluate the statement again.
8. Write a sample code to delete a file.
9. Write the statement to check if the variable name contains the value "John".
10. Predict the output of the following code:

```
import numpy as np
a = np.arange (10)
print (a[:-6])
```

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

11. Write short notes on numpy library.
12. Explain list comprehension. Write a sample program to illustrate the use of the same.
13. With an example, differentiate between `insert()` and `append()` methods in lists.
14. Write a simple program to implement single inheritance.
15. Write short notes on decorators in python.
16. Write a program that accepts the user's name (as text) and age (as a number) as input. The program should output a sentence containing the user's name and age.
17. Discuss how an array is created in python.
18. Explain how user defined functions are created and called in python.

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

19. 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.

20. Prepare detailed notes on the built-in class attributes.
21. Explain various looping and control statements in python with an example.
22. Using tkinter, create a GUI that accepts a number through an input field and checks whether it is palindrome or not.

(5 x 2 = 10 Weight)