

END SEMESTER EXAMINATION : OCTOBER 2022
SEMESTER 3 : INTEGRATED M.Sc. PROGRAMME COMPUTER SCIENCE - DATA SCIENCE
COURSE : 21UP3CRMCP8 : PROGRAMMING IN PYTHON
(For Regular - 2021 Admission)

Time : Three Hours

Max. Weightage: 30

PART A

Answer any 8 Questions

1. Define lambda function in python.
2. Write the output of the following code:

```
import numpy as np
a = np.arange (10)
b = a [2:15:2]
print (b)
```
3. Write the result of the expression "*" * 10.
4. Predict the output of the following code:

```
import numpy as np
a = np.arange (10)
print (a[:-6])
```
5. The default shell interface that python provides is called -----.
6. Define the term 'instance' in object oriented programming.
7. Predict the output of the following code:

```
dict = { 'Name':'John','Roll No':23,'Age':30 }
print (dict ['NAME'] )
```
8. List any two standard exceptions in python.
9. The----- function is used to convert a string of digits to a floating-point value.
10. Assuming that the variable name stores "John Samuel", find the output of the following statements:
(i) print (name [-2])
(ii) print (name [1:-1])

(1 x 8 = 8 Weight)

PART B

Answer any 6 Questions

11. Write a simple program that handles a ZeroDivisionError.
12. Define dictionary in python. Explain how dictionary elements can be accessed.
13. Write a simple program to implement single inheritance.
14. List the steps involved in creating a GUI window in python.
15. List down the properties of a tuple.
16. Discuss how functions are called by reference.
17. Write a sample program to create a pie chart showing literacy levels of any 5 states in India.
18. Evaluate the following code at a shell prompt:

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


Then assign name an appropriate value and evaluate the statement again.

(2 x 6 = 12 Weight)

PART C

Answer any 2 Questions

19. Explain various looping and control statements in python with an example.
20. Prepare detailed notes on the built-in class attributes.
21. Discuss the various types of plots supported by matplotlib. Also draw the plots manually.
22. Create a GUI that accepts three angles and check whether the figure is a right-angled triangle.

(5 x 2 = 10 Weight)