K23U 1159

Reg. No. : .....

Name : .....

IV Semester B.Sc. Degree (CBCSS – OBE-Regular/Supplementary/ Improvement) Examination, April 2023
(2020 Admission Onwards)
COMPLEMENTARY ELECTIVE COURSE
(For B.Sc. Life Sciences (Zoology) and Computational Biology)
4C04 CSC-ZCB : COMPUTATION USING PYTHONS

Time : 3 Hours Max. Marks : 32

PART – A
(Short Answer)

Answer **all** questions.

1. Which is the correct extention of the Python file ?
2. Which of the following is used to define a block of code in Python language ?
3. Which of the following functions is a built-in function in python ?
   a) factorial() b) print()
   c) seed() d) sqrt()
4. _____ is used to create an object.
5. To view changes in data over a period of time we can use _____ chart. **(5×1=5)**

PART – B
(Short Essay)

Answer **any 4** questions.

6. What is the difference between a “for” loop and a “while” loop in Python ?
7. What is the purpose of the “try” and “except” statements in Python ?
8. Explain function in Python with an example.
9. What is polymorphism in Python ?
10. What is the purpose of the “self” parameter in Python class methods ?
11. How do you create a plot in Python using Matplotlib with an example ? **(4×2=8)**

P.T.O.

PART – C
(Essay)

Answer **any 3** questions.

12. What is a scatter plot in Python and how can you create a scatter plot in Python using Matplotlib with example ?
13. What is exception handling in Python and how is it used for finding ValueError and ZeroDivisionError through a sample program ?
14. Explain the difference between a built-in exception and a user-defined exception in Python.
15. Write a program in Python that takes a list of integers as input and prints the sum of all even numbers in the list.
16. Write a program in Python that takes a string as input and prints the frequency of each character in the string using dictionary. **(3×3=9)**

PART – D
(Long Essay)

Answer **any 2** questions.

17. Demonstrate encapsulation in Python through a sampe code.
18. Write a program that printing the following patterns.

a)
```
    *
   ***
  *****
 *******
*********
```

b)
```
*********
 *******
  *****
   ***
    *
```

19. Write a program in Python to demonstrate the use of modules.
20. Write a program to create a bar chart using Matplotlib in Python that should display the number of students in each class of a school. **(2×5=10)**

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