K23U 2839

Reg. No. : .....

Name : .....

V Semester B.Sc. Degree (C.B.C.S.S. – Supplementary) Examination, November 2023
(2017 and 2018 Admissions)
CORE COURSE IN PHYSICS
5B09PHY : Python Programming

Time : 3 Hours

Max. Marks : 40

SECTION – A

(Very short answers type – **Each** carries **1** mark – Answer **all** questions) **(4×1=4)**

1. What will be the datatype of var in the code given below ?

```
var = 10
print(type(var))
var = "Hello"
print(type(var))
```

2. What is the syntax for if statement ?
3. What is the difference between x = 5 and x == 5 ?
4. What is interpolation ?

SECTION – B

(Short answer type – **Each** carries **2** marks – Answer **7** questions out of 10) **(7×2=14)**

5. What are Python packages ?
6. What is an Array ?
7. What is the syntax for 'while' loop ?
8. How can we add numbers in given list without using loop [2, 4, 10, 2, 8] ?

P.T.O.

9. What are the uses of numerical methods ?

10. What is a dictionary in python ? What are the uses of a dictionary ?

11. Explain docstring.

12. What is the meaning of using a negative index ? Give example.

13. What is the difference between list and tuple ?

14. What are the limitations of python ?

SECTION – C

(Short essay/problem type – **Each** carries **3** marks – Answer **4** questions out of 6) **(4×3=12)**

15. Write a python Program to Convert Kilometers to Miles.

16. import numpy as np

    a = np.zeros(5)

    b = np.zeros((3, 2))

    c = np.arange(2, 3, 0.1)

    p = np.linspace(1, 2, 5)

    What are the values of a, b, c and p ?

17. Write a program to print fibonacci series.

18. Write a Python programme that uses nested loops to add the given two matrices, X and Y, where

    X = [[1,2,3],

    [4,5,6],

    [7,8,9]]

    Y = [[10,11,12],

    [13,14,15],

    [16,17,18]].

19. Given a dictionary :

    data = { "Bob" : 23, "Charlie": 36, "Alice": 72, "Eric": 18, "David": 9}

    Write a python code to sort the dictionary in descending order without using loops. Output should be a dictionary.

20. Write a program to split the string into lists of strings.

    Input : Hello Good Evening

    Output : ['Hello', 'Good', 'Evening']

SECTION – D

(Long essay type – **Each** carries **5** marks – Answer **2** questions out of 4) **(2×5=10)**

21. Write a python program to find uncommon words from two strings.

22. Write a program to generate a sine and cosine wave and plot it with its coordinates.

23. Write the value of z.

    x = np.arra y ([1, 8, 3])

    y = np.arra y ([11, 18, 13])

    a) z = x +y

    b) z = x*y

    c) z = np.delete(x, 1)

    d) z = np.dstack((x, y))

24. Write a python program to generate a file which contains

x	x**2
0	0
1	1
2	4
3	9
4	16
5	25