



K23U 0529

Reg. No. :

Name :

VI Semester B.Sc. Degree (CBCSS – OBE-Regular/Supplementary/
Improvement) Examination, April 2023
(2019 and 2020 Admissions)

DISCIPLINE SPECIFIC ELECTIVE IN PHYSICS
6B14PHY (1) : Python Programming

Time : 3 Hours

Max. Marks : 40

PART – A

(Short answer questions, answer **all** questions. **Each** question carries **1** mark.)

1. Who developed python programming language ?

2. The output of `>>>2**3` is _____

3. What is the output of the program ?

`>>> for i in range (10) :``print (i)``if i == 2 :``break`

4. The keyword is used to define the block of statement in the function is _____

5. Name any two array attributes.

6. What is the output of the following python program ?

`>>> A = [1, 2, 3, None, (), []]``>>> print (len(A))`

(6×1=6)

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PART – B

(Short essay questions, answer **any 6** questions. **Each** question carries **2** marks.)

7. Name the various data types used in python language.

8. List the rules to name an identifier.

9. Define recursive function.

10. Write the syntax of the 'if else' block with an example.

11. Write a program to create a NumPy array of five zeros of dimension 1.

12. Write a python program to plot a cosine wave from 0 to 2π .13. Given `S = '0123456789'` write a python code to remove the first and last elements and print.

14. Write a python program to check the given number is even or odd. (6×2=12)

PART – C

(Problems, answer **any 4** questions. **Each** question carries **3** marks.)15. What is a function in Python ? What are the advantages of using a function ?
What is the difference between user-defined function and built in function ?16. Write a python code to plot the curve $y = x^2$ with the axes labelled and title in the graph.

17. Explain how to calculate the derivative of a function using python.

18. Distinguish lists and tuples in python.

19. How will you calculate dot product and cross products in python ? Write a python code to perform dot and cross operation among two vectors.

20. Write a python program to obtain multiplication table of a given number entered by the user. (4×3=12)



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PART – D

(Long essay questions, answer **any 2** questions. **Each** question carries **5** marks.)

21. What are modules in Python ? How will you import them ? Explain the concept by creating and importing a module.

22. Explain with suitable example the different operators in Python.

23. Explain the use of while and for loops in Python programming.

24. Explain the plotting of mathematical functions in Matplotlib. Write a Python program to plot Plank's curves. (2×5=10)