



Reg. No. : .....

Name : .....

**VI Semester B.Sc. Degree (CBCSS – OBE – Regular)**  
**Examination, April 2022**  
**(2019 Admission)**  
**CORE COURSE IN PHYSICS**  
**Discipline Specific Elective**  
**6B14PHY(1) : Python Programming**

Time : 3 Hours

Max. Marks : 40

**SECTION – A (6 Marks)**

Short answer **six** questions. Answer **all** questions. **Each** carries **1** mark :

1. Who developed python programming language ?
2. Write a mathematical operator which returns the remainder.
3. Give example of two mutable data type.
4. Which keyword is used for function in python language ?  
A) Function      B) Def      C) Fun      D) Define
5. Which is the python library used for working with arrays ?
6. What do you mean by len() function ?

**SECTION – B (12 Marks)**

Short answer questions **eight** questions. Answer **any six**. **Each** carries **2** marks :

7. What is meant by slicing ?
8. Explain with example the input methods.
9. Name the different data types in python.
10. What is a list ? How lists are different from tuple ?

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11. What is the importance of import statement ?
12. Define recursive function.
13. What is meant by indentation and what is its importance in python ?
14. Define lambda functions.

**SECTION – C (12 Marks)**

Problem **six** questions. Answer **any four**. **Each** question carries **3** marks :

15. Write a program to create a 1D array of numbers from 0 to 9 using numpy.
16. Write the command to display the x and y axis label and title in a graph.
17. How will you compute dot product and cross products in python ?
18. What are the features of python programming language ?
19. Using polar () function write a program to plot a circle.
20. What are functions and modules in python ?

**SECTION – D (10 Marks)**

Long essay questions **four** questions. Answer **any two**. **Each** question carries **5** marks :

21. A) Write the syntax for the control statements if . . . elif . . . else . . . and while in python.  
B) Write a program that tests whether a number is prime or not, using while and if . . . else statement.
22. What is Planck's law ? Write the program to plot Planck curves ?
23. Write the syntax for accessing, adding and deleting an element from a list and illustrate the use of user defined functions in python.
24. Explain the derivative of a function ? Write a program to find the derivative of sine function.