



K21U 1547

Reg. No. :

Name :

V Semester B.Sc. Degree (CBCSS – Sup./Imp.) Examination, November 2021
(2015 – '18 Admns)

CORE COURSE IN PHYSICS
5B09PHY : Python Programming

Time : 3 Hours

Max. Marks : 40

SECTION – A

Answer **all**. Very short answer type, **each** carries 1 mark.

1. What is the use of raw_input function in python ?
2. If we run the following code in python, the output will be
x=2
for i in range(1, 5);
 x=x+i
print x
3. Declaration of variable is necessary in python. Is the statement true or false ?
4. A directory or collection of modules in python is called _____ (4×1=4)

SECTION – B

Answer **any seven**. Short answer type, **each** carries 2 marks.

5. Write a program to print power of 3 up to 243.
6. What is arrange function ?
7. Explain file input and output modes in python.
8. What are the differences between list and arrays in python ?
9. Write the syntax of formatted printing. Give an example.

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10. How will you plot a circle ?
11. Comment on the statement that Simpson's rule is better than trapezoidal rule.
12. What is exception handling ?
13. Write a short note on immutable compound data type in python.
14. Write any program to plot a 2D graph in colors.

(7×2=14)

SECTION – C

Answer **any four**. Short essay/problem type, **each** carries **3** marks.

15. What are the different mathematical operators in python ? Write the hierarchy of operations.
16. Write a note on modules. Explain different importing methods.
17. Write a program including if, elif and else statements.
18. Explain any three functions in matplotlib module.
19. What is least square curve fitting ?
20. How to find out dot product and cross product of two matrices using numpy module ? Give example.

(4×3=12)

SECTION – D

Answer **any two**. Essay type, **each** carries **5** marks.

21. What are the different methods for creating arrays in python ? Explain.
22. Explain functions in python. Write a program with function and explain the advantages of functions.
23. Explain ordinary differential equations and solving methods.
24. What is Fourier series ? Using matplotlib module plot sine and cosine waves.

(2×5=10)
