

KAMARAJ COLLEGE (Autonomous)

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(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(4 Pages)

Reg. No:.....

Question Code: 26E01210

Course Code : 24USPH41

UG Degree - End Semester Examinations, April 2026

Fourth Semester

B.Sc., PHYSICS

Python Programming

(For those who joined in July 2024 onwards)

Time : 3Hours

Maximum : 75 Marks

PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

CO:1 1. Which of the following is a valid identifier in Python?

- K:1
- (a) 2value (b) value_2
(c) value-2 (d) class

CO:1 2. Which of the following is a reserved word in Python?

- K:2
- (a) Sum (b) Print
(c) While (d) Value

CO:2 3. The output of the following code is

K:1

```
x=0
If x > 5:
    Print ("A")
else :
    print ("B")
```

- (a) B (b) A
(c) 0 (d) 5

CO:2 4. Which statement is used to skip the current iteration of a loop?

- K:2
- (a) break (b) exit
(c) continue (d) skip

CO:3 5. Which function definition correctly uses a default argument?

- K:1
- (a) def fun (a=5,b): (b) def fun (a,b=5):
(c) def fun (a==5,b): (d) def fun (a,b):

- CO:3 6. Which built in string method converts characters to lower case?
K:2 (a) Lower () (b) tolower ()
(c) lower case() (d) casefold ()
- CO:4 7. _____ is used to create a tuple.
K:1 (a) { } (b) ()
(c) [] (d) < >
- CO:4 8. Which function is used to find the middle value of a list?
K:2 (a) mean () (b) median ()
(c) middle () (d) avg ()
- CO:5 9. _____ mode is used to append data to a file.
K:1 (a) r (b) w
(c) a (d) x
- CO:5 10. What does file.tell() return?
K:2 (a) file name (b) file size
(c) current file position (d) number of lines

PART - B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

- CO:1 11. (a) Explain literal constants in Python with examples.

K:3 **(OR)**

(b) Write a Python program to calculate the area of a circle.

- CO:2 12. (a) Explain about the while loop statement in python with example.

K:3

(OR)

(b) Write a Python program to calculate the roots of a quadratic equation with output.

- CO:3 13. (a) Explain about Lambda function in Python.

K:4 **(OR)**

(b) Write a program to calculate GCD using a recursive function and display the output.

- CO:4 14. (a) Explain about the basic tuple operations.

K:4 **(OR)**

(b) Write a program to swap two values using tuple assignment with output.

CO:5 15. (a) Write short notes on file modes.

K:5

(OR)

(b) Write a program to count the number of times a character appears in a file.

PART - C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 500 words.

CO:1 16. (a) Explain the basic structure of a Python program and steps to write and execute a program.

K:3

(OR)

(b) (i) Write a Python program to calculate the area of a triangle using Heron's formula.

(ii) Write a Python program to find the distance between two points using Pythagoras theorem.

CO:2 17. (a) Explain conditional branching statements in python with syntax and examples.

K:4

(OR)

(b) (i) Write a program to print the reverse of a given number with output.

(ii) Write a program using a for loop to find the factorial of a given number with output.

CO:3 18. (a) Explain the different type of arguments in python functions.

K:4

(OR)

(b) (i) Write a program to convert the given time into minutes and display the output.

(ii) Write a program to compute polynomial function $P(n, r)$ and display the output.

CO:4 19. (a) Explain about the basic list operations with examples.

K:5

(OR)

(b) Write a program to find the median of a list of numbers with output.

CO:5 20. (a) Explain file path and different types of files.

K:5

(OR)

- (b) Generate a program to compute the number of characters, words and lines in the file.