

# **KAMARAJ COLLEGE (Autonomous)**

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

THOOTHUKUDI – 628 003

**(7 Pages)**

**Reg. No: .....**

**Question Code No : 25001412**

**Sub Code : 24PMCA12**

**PG Degree - End Semester Examinations, November 2025**

**First Semester**

**M.C.A.**

**Advanced Python Programming**

**(For those who joined in July 2024 onwards)**

**Time : 3 Hours**

**Maximum : 75 Marks**

**PART – A (10 × 1 = 10 Marks)**

**Answer ALL Questions**

**Choose the correct answer:**

1. Bitwise operator can be applied on which data type?

(a) integer

(b) float

(c) boolean

(d) string

2. What is the output of this code?

```
>>> int("55" + "60")
```

(a) 115

(b) "115"



8. How do you plot a simple line graph using Matplotlib in Python?
- (a) `Plt.line(x,y)`                      (b) `Plt.plot(x,y)`  
(c) `Plt.graph(x,y)`                      (d) `Plt.draw(x,y)`
9. Which of the following is the default database used by Django?
- (a) PostgreSQL                      (b) Oracle  
(c) SQLite                      (d) MySQL
10. What is Django Admin Interface?
- (a) A built-in feature for handling database queries  
(b) A template rendering tool  
(c) A graphical interface for managing Django models  
(d) A static file handler

**PART - B (5 X 5 = 25 Marks)**

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

**Answer should not exceed 250 words.**

11. (a) Discuss the numeric data types supported by Python.

**(OR)**

- (b) Write a python program to sum the digits of a number to a single digit using while statement.

12. (a) What are strings in python. Explain with any FOUR string functions that returns an integer value as the result.

**(OR)**

(b) What is dictionary? Explain how it can be created and modified?

13. (a) Discuss a Grid class in Python and its purpose.

**(OR)**

(b) Explain the addition of Command Buttons in the window and its response to Events in GUI programming.

14. (a) Describe the three layers of the matplotlib architecture with a suitable application.

**(OR)**

(b) Explain indexing and Slicing in NumPy arrays with example.

15. (a) Discuss the important settings and configurations defined in Django's settings.py file.

**(OR)**

- (b) Describe the steps to create, retrieve, update and delete objects using database abstraction API in Django.

**PART – C (5 X 8 = 40 Marks)**

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

**Answer should not exceed 600 words.**

16. (a) Discuss the various looping statements in Python with suitable example.

**(OR)**

- (b) Write the Python program to get the consumer number, name, previous month reading and current month reading and calculate the Bill Amount using nested if statement as per the following breakdown:

<b>Breakdown</b>	<b>Rate per Unit</b>
Up to 400 units	Rs. 4.80
401-500 units	Rs. 6.45
501-600 units	Rs. 8.55
601-800 units	Rs. 9.65
801-1000 units	Rs. 10.70
401-500 units	Rs. 11.80

17. (a) i. Discuss the basic list operations.  
ii. Write a Python program to that creates a list of numbers from 1-50 that are either divisible by 3 or divisible by 6.

**(OR)**

- (b) i. Write a note on recursive function with example program.  
ii. Write a Python program to calculate  $\exp(x,y)$  using recursive function.

18. (a) Write a program for a publishing company that markets both printed books and audio-visual lectures stored on CDs. Write a class Publication that stores title and price. Drive a class Book which has an additional member as no\_pages and a class Lecture with member play\_time.

**(OR)**

- (b) Write a detailed note on windows and its components which support GUI programming.

19. (a) How would add the various elements in a chart in Mat plot lib? Give suitable example.

**(OR)**

(b) Describe in detail about the basic data structures of Pandas.

20. (a) How would create a simple administration site to manage your blog posts. Explain with suitable models.

**(OR)**

(b) Illustrate in detail about building and managing lists and detail views in Django.