

Register No: _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

MCA DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025

First Semester

Master of Computer Applications

PMCT2403- Python Programming

Regulations - 2024

Duration : 3 Hrs

Maximum : 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BTL	CO	Marks
1.	What is recursion in Python?	L1	1	2
2.	Discuss how indentation affects control flow in Python.	L2	1	2
3.	What is a dictionary in Python?	L1	2	2
4.	Differentiate between mutable and immutable data types with examples.	L2	2	2
5.	Demonstrate how to handle an exception using the try-except block.	L2	3	2
6.	How do you raise a custom exception in Python?	L1	3	2
7.	Analyze the role of Matplotlib and Plotly in data visualization.	L4	4	2
8.	Analyze how Python libraries support end-to-end data analytics pipelines.	L4	4	2
9.	Define class methods. How are they declared?	L1	5	2
10.	What is the difference between instance methods and class methods?	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11.	a i Explain the role of the Python interpreter and interactive mode in program execution.	L2	1	8
	ii Write short notes on the followings: a) Variables and Identifiers b) Values and Types c) Boolean Values	L2	1	8
	Or			
	b i Explain the concept of local and global scope in Python with suitable examples.	L2	1	8
	ii Discuss how Python expressions are formed using operators and operands. Give examples to illustrate evaluation of expressions.	L2	1	8
12.	a Explain in detail about Python modules. Describe how to load, execute, and use built-in and user-defined modules with examples.	L2	2	16
	Or			
	b Explain the concept of packages in Python. How do you organize and use multiple modules as a package?	L2	2	16

13.	a	Write a Python program that reads numbers from a file, computes their average, and handles any invalid input exceptions.	L3	3	16
		Or			
	b	Write a Python program that demonstrates the use of the with statement for file operations and handles any runtime exceptions gracefully.	L3	3	16
14.	a	Analyze the role of NumPy in data processing. Compare its array operations and performance with standard Python lists.	L4	4	16
		Or			
	b	Analyze how web frameworks such as Django and Flask handle routing, templates, and database integration differently.	L4	4	16
15.	a	Discuss how encapsulation and data hiding improve program security and modularity in Python.	L2	5	16
		Or			
	b	Explain the concept of object serialization and deserialization in Python. How is it used in persistent storage?	L2	5	16