Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
M.SC INTEGRATED - SEMESTER - VII EXAMINATION - WINTER 2025

Subject Code: 1370503 **Date: 18-11-2025**

Subject Name: Python Programming-2

Time: 10:30 AM TO 01:00 PM **Total Marks: 70**

Instructions
1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

			Marks
Q.1	(a)	Define file handling in Python. List types of files with examples	03
	(b)	Explain the use of seek() and tell() methods with an example.	04
	(c)	Discuss the role of regular expressions in Python for text processing. Write a sample code using re.search().	07
Q.2	(a)	What is a binary file? Explain reading and writing operations with code.	03
	(b)	Describe the 'with' statement. How does it improve file handling in Python?	04
	(c)	Explain quantifiers and special characters used in Regular Expressions with examples.	07

OR

	(c)	Discuss the use of datetime and timedelta modules for date arithmetic with an example.	07
Q.3	(a)	What are deadlocks in threads? Explain with example.	03
	(b)	Describe how to plot a histogram and a pie chart using Matplotlib.	04
	(c)	Explain data visualization in Python using PyLab with an example.	07

OR

	(a)	Explain different types of plots available in Matplotlib.	03
	(b)	Create a line graph that plots monthly sales from a CSV file.	04
	(c)	How can data visualization enhance data interpretation? Give an example.	07
Q.4	(a)	What is database connectivity?	03
	(b)	Explain the process of connecting Python with MySQL.	04
	(c)	Write Python code to insert and update records in a MySQL database.	07

OR

	(a)	Explain how to retrieve and delete data from MySQL using Python.	03
	(b)	How are tables created in a database using Python?	04
	(c)	Discuss exception handling during database operations.	07

Q.5 (a) Define data wrangling and its importance in data science. **03**

(b) Explain the concept of the 'hashing trick' in Scikit-learn. **04**

(c) Discuss multiprocessing in Python and its role in improving data wrangling performance. **07**

OR

(a) Explain how to perform deterministic selection using Scikit-learn. **03**

(b) Describe the working of the timeit module and its application in benchmarking. **04**

(c) Explain how data wrangling supports machine learning pipelines. **07**

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