Enrolment No. /Seat No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED – SEMESTER IV- EXAMINATION –WINTER-2024

Subject Code:2648601   **Date: 04/12/2024**
Subject Name: Python
Time:02:30 PM TO 05:00 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.

Q.1(a)	Describe the following:	**07**
	i. super()	
	ii. pop()	
	iii. __init__()	
	iv. type()	
	v. id()	
	vi. bar()	
	vii. show()	
Q.1(b)	Give a comparison between List, Tuple and Dictionaries in Python.	**07**
Q.2(a)	Explain Formal and Actual arguments in Python. Also explain the following type of arguments with proper Example. 1. Positional Arguments 2. Keyword Arguments 3. Default Arguments 4. Variable Length Arguments	**07**
Q.2(b)	What is lambda function in python? Give its example. Also Explain filter (), map () and reduce () functions with reference to lambda in brief.	**07**

<div align="center">OR</div>

Q.2(b)	What is Decorators? What is Generators? Explain both with the suitable example.	**07**
Q.3(a)	What is Exception? Explain exception handling with suitable example.	**07**
Q.3(b)	What do you mean by inheritance in python? List types of Inheritance. Explain Multiple and Multi-level with suitable Example.	**07**

<div align="center">OR</div>

Q.3(a)	How many types of files are there in python? Write the different file handling operations with example.	**07**

Q.3(b) What is abstract class and abstract method? How to create abstract class in python? Explain with its general structure and example. **07**

Q.4(a) What is Data Frame? In How many ways dataframe can be created? How to create Dataframe using dictionary? **07**

Q.4(b) What is the use of PyLab and matplotlib in Python? Explain the use of plot (), show () and title () functions of PyLab. **07**

OR

Q.4(a) Explain Pie chart in detail with suitable example. **07**

Q.4(b) Explain the use of the following operations performed on dataframe with example:
shape, head (), tail (), describe (), sort_values (), fillna(), dropna() **07**

Q.5(a) Write following programs for regular expressions.
1. To search for string starting with m and having total three characters using the search (), findall () and map () methods. **04**
2. To split a string into pieces where one or more non alpha numeric characters are found. **03**

Q.5(b) What is regular expression? List & Explain each Meta Characters in with suitable example. **07**

OR

Q.5(a) Write a python program which show to insert and delete records in employee table with following fields(emp_id , emp_name , emp_mnumber , emp_project). **07**

Q.5(b) How to use regular expression in file? Write a program that search the email id from text file. **07**

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