Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V (NEW) EXAMINATION – WINTER 2023

Subject Code:3154206 Date:22-12-2023

Subject Name:Python Programming

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. **Simple and non-programmable scientific calculators are allowed.**

Q.1	**(a)**	Differentiate between mutable and immutable objects in Python language with an example	**03**
	(b)	Explain list indexing and slicing with an example	**04**
	(c)	Explain continue and break statements with an example	**07**
Q.2	**(a)**	Explain the tuple with an example	**03**
	(b)	Explain the nested if statement with an example	**04**
	(c)	Write a Python program to check whether the given number is an Armstrong number or not	**07**
		OR	
	(c)	Write a Python program to print Prime numbers between 1 to 100	**07**
Q.3	**(a)**	Explain the relation between Tuples and Lists	**03**
	(b)	Explain the zip() function with an example	**04**
	(c)	Write a Python program to check whether the user entered string is palindrome or not	**07**
		OR	
Q.3	**(a)**	Explain Operations on Set	**03**
	(b)	Write a short note on The Pickle Module	**04**
	(c)	Write a Python function sumofsquare (M) that takes a non-empty list of integers and returns a list [even, odd], where even is the sum of squares of all the even numbers in M and odd is the sum of squares of all the odd numbers in M. for example, Input: sumofsquare([1,2,3,7]), Output:[4,59]	**07**
Q.4	**(a)**	List built-in functions used on Dictionaries. Explain any one of them with an example	**03**
	(b)	Write a Python program to find the transpose of the matrix	**04**
	(c)	Write a Python program to copy the contents of one text file to another	**07**
		OR	
Q.4	**(a)**	Explain Labels, Annotation, and Legends in matplotlib	**03**
	(b)	Write a Python program to multiply two N X N matrices	**04**
	(c)	Explain the functions used to create, access, and manipulate sequences	**07**
Q.5	**(a)**	Compare Pandas with Numpy	**03**
	(b)	Explain linear regression with an example	**04**
	(c)	Explain line Graphs and scatter Graph with an example	**07**

OR

Q.5	**(a)**	List the type of plots that can be drawn using matplotlib	**03**
	(b)	Explain logistic regression with an example	**04**
	(c)	Explain the Decision Tree with an example	**07**

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