Enrollment No.: _____

Darshan UNIVERSITY
योगः कर्मसु कौशलम्

Darshan Institute of Engineering & Technology
B.Tech. | Sem-4 | Winter-2023

Course Code	:	2101CS405	**Date**	:	19-10-2023
Course Name	:	Python Programming	**Duration**	:	150 Minutes
			Total Marks	:	70

Instructions:
1. Attempt all the questions.
2. Figures to the right indicates maximum marks.
3. Make suitable assumptions wherever necessary.

Q.1	**(A)**	Explain List comprehension with example.	**4**
	(B)	Define len(), count(), and title() functions of a string.	**3**
		OR	
		Define lower(), find() and replace() functions of a string.	
	(C)	Explain the advantages of python programming language.	**7**
		OR	
		Explain List methods with example?	
Q.2	**(A)**	Write a program to check whether given number is perfect or not.	**4**
	(B)	Explain identity operator with example.	**3**
		OR	
		Explain recursion with example.	
	(C)	Explain break, continue, and pass keywords.	**7**
		OR	
		Explain pass by reference and pass by value with example.	
Q.3	**(A)**	Write a program to copy content of file “DU.txt” to another file “DIET.txt”	**4**
	(B)	Explain read() and write() with example.	**3**
		OR	
		Explain access modes of open() function.	
	(C)	Explain built-in exception.	**7**
		OR	
		Explain try, catch, else and finally with example.	

Q.4 **(A)** Write a program to generate 100 random lottery tickets and pick two lucky tickets from it as a winner. **4**

(B) Explain randint(), shuffle(), uniform() functions of a random module. **3**

OR

Explain ceil(), sqrt(), exp() functions of a math module.

(C) Write a Python program to display a pie chart for the region wise population with labels, colours, explode values and title. **7**
Consider following sample data:

Region	Population	Colour	Explode
North	491 064	Red	0.5
East	283 445	Green	0.0
South	128 753	Yellow	0.0
West	263 391	Cyan	0.0

OR

The percentage of monthly salary saved by each employee is given in the following table. Represent it through a bar chart, set labels, title, and color.

Saving (%)	No. of Employee	Colour
20	105	Red
30	199	Green
40	29	Yellow
50	73	Cyan

Q.5 **(A)** Explain class and object with example. **4**

(B) Write a program to create circle class with area and perimeter function to find area and perimeter of circle. **3**

OR

Write a program to create a bank account class with methods to deposit and withdraw.

(C) What is polymorphism? Explain with example. **7**

OR

What is inheritance? Explain multiple, multilevel, and hierarchical inheritance with example.

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