GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, ODISHA, GUNUPUR
(GIET UNIVERSITY)

B. Tech (Fourth Semester - Regular) Examinations, April – 2025

23BCSPC24001 – Fundamentals of Python Programming

(Computer Science and Engineering)

Time: 3 hrs Maximum: 60 Marks

Answer ALL questions
(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

		CO #	Blooms Level
Q.1.	Answer ***ALL*** questions		
a.	What will be the output of the following code? tp1=(10,20,30,40,50) tp1.pop(50) print(tp1)	CO1	K2
b.	Explain the usage of the "self" parameter.	CO2	K1
c.	Write a program to copy the contents of "source.txt" into a file "target.txt".	CO3	K2
d.	Explain the difference between **Lock** and **RLock.**	CO4	K1
e.	Write a program to create a lambda function to find the smallest among 3 values.	CO2	K2

PART – B **(10 x 5 = 50 Marks)**

	Answer *ALL* the questions	Marks	CO #	Blooms Level
2. a.	Explain the following with an example of each: - Identity operator - Slicing operator	5	CO1	K1
b.	Write a program to find the number of occurrences of each character present in the given String? Ex: input: ABCABCABBCDE output: A-3,B-4,C-3,D-1,E-1	5	CO1	K2
	(OR)			
c.	Write a program to sort the string characters and the first alphabet symbols, followed by numeric values. Input: B4A1D3 Output: ABD134	5	CO1	K2
d.	Illustrate the usage of following (with example): range() function and break keyword	5	CO1	K1
3.a.	Explain the usage of map(), filter() and reduce() functions with examples on each.	5	CO2	K1
b.	Write a user-defined function to print column-wise sum of nested list. For Example: Input : [[1, 5, 3], [2, 7, 8], [4, 6, 9]] Output : [7, 18, 20]	5	CO2	K2
	(OR)			
c.	Explain the concept of decorator chaining with a suitable example.	5	CO2	K1
d.	Write a program to enter name and marks of 'n' number of students in a dictionary and display information by using for loop.	5	CO2	K2

4.a.	Write a program to enter a paragraph into a file. Find how many palindromes exist within the file and then display them.	5	CO3	K2
b.	Explain the role mro( ) function with suitable example in multiple inheritance.	5	CO3	K2
	(OR)			
c.	Write a program to check whether a mobile number entered is valid or not by using regular expression	5	CO3	K2
d.	Write a program to create a class for a product having member data: product_no, product_name, cost, quantity, total_ amount, and member functions: input(), calculate(), display().	5	CO3	K2
5.a.	Define "ZeroDivisionError" in the outer try and "TypeError" in the inner try block with an example.	5	CO4	K1
b.	Write a program to create a thread by using all possible methods.	5	CO4	K2
	(OR)			
c.	What do you mean by synchronization? Explain the concept of synchronization by using a semaphore with an example.	5	CO4	K1
d.	Explain all possible cases of executing finally block with suitable examples on each.	5	CO4	K2
6.a.	Write a program to create a table "MyTable" (having 4 fields such as empid,name,sal,branch) within a database "MyDb" and insert 4 records into it.	5	CO5	K2
b.	Write a program to create a list box and 3 buttons using Tkinter module.	5	CO6	K2
	(OR)			
c.	Write a program to connect Python to your database and perform the following operations: i. show the list of tables that exist ii. open a table and display all the records	5	CO5	K2
d.	Write a program to create checkboxes and radio buttons using Tkinter module.	5	CO6	K2

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