Roll No. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E / B.TECH – END SEMESTER EXAMINATIONS - APRIL/MAY – 2025

GE5153 & PROBLEM SOLVING AND PYTHON PROGRAMMING

(Regulation 2019)

Time: 180 minutes Max.Marks: 100

CO1	To know the basics of algorithmic problem solving.
CO2	To develop Python programs with conditionals and loops.
CO3	To define Python functions and use function calls.
CO4	To use Python data structures - lists, tuples, dictionaries.
CO5	To do input/output with files in Python.

BL – Bloom's Taxonomy Levels

(L1 - Remembering, L2 - Understanding, L3 - Applying, L4 - Analyzing, L5 - Evaluating, L6 - Creating)

PART- A (10 x 02 = 20 Marks)

Q. No	Questions	Marks	CO	BL
01	Distinguish between low-level language and high-level language.	**02**	CO1	L2
02	What are the properties of an algorithm?	**02**	CO1	L1
03	Differentiate Break and Continue statement	**02**	CO2	L3
04	List the membership operators	**02**	CO2	L1
05	Define recursive function	**02**	CO3	L2
06	Write a program that multiplies two numbers using the **lambda**	**02**	CO3	L4
07	Create a tuple variable storying only one value	**02**	CO4	L3
08	Mention the different ways you can create a list	**02**	CO4	L2
09	Explain Logical Error	**02**	CO5	L3
10	What is the mode to open a binary file for performing both reading and writing operation?	**02**	CO5	L3

PART- B (05 x 13 = 65 Marks)

Q. No	Questions	Marks	CO	BL
11 (a) (i)	Write an algorithm to print the factorial of an given number	**08**	CO1	L2
11 (a) (ii)	Write a short note on Arithmetic Operators	**05**	CO1	L1
	OR			
11 (b) (i)	Draw a flowchart to print factorial of a given number	**08**	CO1	L2
11 (b) (ii)	Briefly explain the architecture of a modern computer with a neat diagram	**05**	CO1	L1

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12 (a) (i)	Write a program to find whether the given number is an Armstrong number	**13**	CO2	L3
	OR			
12 (b) (i)	Write a program to find whether the given number is a palindrome numbers	**13**	CO2	L3
13 (a) (i)	Write a program to print the sum of the series - $1/1^2 + 1/2^2 + \ldots + 1/n^2$	**13**	CO3	L3
	OR			
13 (b) (ii)	Write a program to find the transpose of matrix using function.	**13**	CO3	L3
14 (a) (i)	With suitable example programs explain any six list methods	**13**	CO4	L2
	OR			
14 (b) (i)	With suitable example programs explain filter(), map() and reduce() functions	**13**	CO4	L2
15 (a) (i)	Write a program that prompts the user to enter a number. If the number is positive or zero print it, otherwise raise an exception	**10**	CO5	L4
15 (a) (ii)	What are modules? How do you use them in your programs?	**03**	CO5	L2
	OR			
15 (b) (i)	Write a program to copy the contents of one file to another	**10**	CO5	L4
15 (b) (ii)	Write a short note on **finally** block	**03**	CO5	L2

PART- C (01 x 15 = 15 Marks)

Q. No	Questions	Marks	CO	BL
16 (i)	Write a user-defined function to check if a number is present in the list or not. If the number is present, return the position of the number. Print an appropriate message if the number is not present in the list.	**15**	CO4	L6