Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

First Semester

UPST24105 / GE3151 - Problem Solving and Python Programming

(Common to all Branches)

Regulations – 2021 & 2024

Duration : 3 Hrs *Maximum : 100 Marks*

*PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)*

Q.No	*Questions*	*BLT*	*CO*	*Marks*
1.	Write the characteristics of pseudo code.	RE	1	2
2.	Compare iteration and recursion in algorithm design.	UN	1	2
3.	How to write a single-line and a multi-line comment in python?	RE	2	2
4.	List the types of operators available in python.	RE	2	2
5.	What do you mean by fruitful function?	RE	3	2
6.	Write a program to find square root of a given number.	UN	3	2
7.	Compare mutable data types and immutable data types.	UN	4	2
8.	Write the syntax for concatenating two lists in python.	UN	4	2
9.	Find the error in the code given: def example(): print("Hello!")	AP	5	2
10.	Define buffering.	RE	5	2

*PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)*

Q.No			*Questions*	*BLT*	*CO*	*Marks*
11.	a	i	Write the algorithm and pseudocode to find the average of a list of numbers.	AP	1	8
		ii	Write the algorithm, pseudocode to find minimum in a list.	AP	1	8
			Or			
	b	i	Write the algorithm, pseudocode, and flowchart to compute the factorial of a given number.	AP	1	8
		ii	Write the algorithm, pseudocode to find the sum of all numbers till 100.	AP	1	8
12.	a	i	Discuss types of operators in python with appropriate example.	RE	2	8
		ii	Write a program to exchange the value of two variables.	AP	2	8
			Or			
	b	i	Explain constant, variables, expression, keywords and statements in python.	RE	2	8
		ii	Write a program to find whether a given number is Armstrong number or not.	AP	2	8

13.	a	Write a program that prints all numbers from 1 to 10. Use a for loop and include a break statement to stop the loop if the number 5 is reached.	AP	3	16
		Or			
	b	Write and compare the efficiency of programs that search for a specific element in the list 21, 34, 56, 31, 18, 15, 23, 38 using linear search and binary search methods.	AP	3	16
14.	a	Describe the following: (i) Creating the list (ii) Accessing values in the lists (iii) Deleting the list elements (iv) Updating the list	UN	4	16
		Or			
	b	Discuss the methods and operations of dictionaries.	UN	4	16
15.	a	Write a function that reads a file file1 and evaluates and displays number of words and vowels in that file.	AP	5	16
		Or			
	b	Implement a program that prompts the user to enter marks for a student. Ensure that the input is validated to be within the range of 0 to 100. If the input is invalid, raise an exception and prompt the user to re-enter the marks.	AP	5	16