REG.NO.: 24MIC0127

SLOT: C2

VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING
CONTINUOUS ASSESSMENT TEST - II
FALL SEMESTER 2025-2026

Programme Name & Branch : M.Tech (Int.) & MIC,MID
Course Code and Course Name :CSE2010 Advanced C Programming
Faculty Name(s) : Prof.Kauser Ahmed P,Prof..K.Kalaivani, Prof.Syamasudha Veeragandham
Class Number(s) : VL2025260101623, VL2025260101626 VL20252601016
Date of Examination : 07.10.2025
Exam Duration : 90 minutes **Maximum Marks: 50**

General instruction(s):

Answer All Questions

M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)

Course Outcomes:

3-Realize the features of various Input and Output methods including files.

4-Idealize the power of preprocessor directives and recognize programming methods

5-Able to modularize the programming using various input, output, mathematical and utility functions in C and unix system interfaces.

Q. No	Question	M	CO	BL
1.	Assume that the text file Clang.txt which contains the following four lines: ***Mid-level language*** ***System programming language*** ***Welcome to C*** ***Influence on other languages*** Write a C program that deletes a specific line from a text file. The program should prompt the user to enter the line number they wish to remove. For example, if the user enters line number as 3 , and the third line in the file "**Welcome to C**" should be deleted. After deletion, the program should display the updated file content.	10	CO3	3
2.	Write a C program for doing the following • To write some sample strings to a file. • Then it should prompt the user to enter a word to replace. • It must replace all occurrences of the word by the given word, and update the file	10	CO3	3
3.	Develop a C program using a user defined header file named that provides the following functions for array operations. • A function to find the maximum value in an array • A function to find the minimum value in an array • A function to sort the array in ascending order • A function to search for a specific element in the array Create a main program that utilizes these functions to perform operations on an array of 10 integers.	10	CO4	3

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4.	a) How does the behaviour of one function differ when implemented as a standard recursive function versus an inline recursive function? Explain it with an example.	5	CO4	3
	b) Write a C program that determines the largest of four numbers using nested macros with the following steps. i. Define macro to compare two numbers and return the greater one. ii. Use these macro in a nested fashion to find the maximum among all four values. iii. The program should demonstrate the use of these macros with sample input.	5		
5.	a) Write a C program that validates the strength of a password based on the following criteria: • Minimum of 8 characters • Contains at least one digit • Includes at least one uppercase letter • Includes at least one lowercase letter • Has at least one special character The program should use only built-in functions to check these conditions and then display whether the password is Strong or Weak.	5	CO5	3
	b) A delivery company wants to calculate the straight-line distance between two locations on a 2D map. • Input: Coordinates (x1, y1) and (x2, y2) Calculate the distance using the formula: $distance = \sqrt{(x2 - x1)^2 + (y2 - y1)^2}$ A bank wants to calculate the difference between the expected balance and actual balance in an account to see the deviation. The difference should always be positive. Write a program for doing the above tasks using appropriate built-in functions • To calculate the distance for a company. • To Calculate absolute difference between expected and actual bank balance. • To measures the total execution time for completing these tasks.	5		

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