



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

REG.NO.: Ahmed128

SLOT: C2

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

Programme Name & Branch : M.Tech Integrated & MIC, MID
Course Code and Course Name : CSE2010 Advanced C Programming
Faculty Name(s) : Dr. Kauser Ahmed P, Dr. Kalaivani K and Syamasudha Veeragandham
Class Number(s) : VL2025260101626, 1623 and 1617
Date of Examination : 19-8-2025
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:
 - 1 - Learn various control structures and derived data types for solving real world problems using user defined functions
 - 2 - Explore dynamic memory allocations strategies and user defined data types

Q. No	Question	M	CO	BL
1.	a) Explain the difference between while loop and do-while loop using suitable programming example	5	1	2
	b) Write suitable source code in 'C' for the following using for loop. Read 5 digit number from the user. Print the reverse of the given number and also check the entered number is equal to the reversed number. Ex: if the input from user is 12345 then it should print 54321 and also print "not equal". If the input from user is 12321 then it should print 12321 and also print "equal".	5		
2.	Write three Debugging programs and mention the correct syntax, logic, wrong output and correct output using operators and control statements as given in the example. Example: Wrong program #include <stdio.h> int main() { int i = 1; while () // No condition in while loop { printf("%d", i++); if (i > 10) break; } return 0; }	10	1	2



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	Correct program <pre>#include <stdio.h> int main() { int i = 1; while (i <= 10) // While needs condition { printf("%d ", i++); } return 0; }</pre>			
3.	Discuss core dump, memory leak and dangling pointer using suitable programming examples.	10	2	3
4.	a) What is an Array of Pointers? Write a C program to find the sum of N even numbers using array of pointers.	6	2	3
	b) What will be output of the following code <pre>#include<stdio.h> void main() { char *p = "Hello world"; int *q; p++; q = (int *)p; q++; printf("\n %s\n%s", p, q); }</pre>	4		
5.	a) Write a C program to find the greatest of four numbers using functions. In functions the argument should be passed by call by reference.	5	2	3
	b) Write a C program which accepts user data and stores it in a memory efficient way. User data details are as follows: 1. Reg No 2. Student Branch 3. CGPA 4. Class Days(Monday, Tuesday, ..., Friday) Each student details should be stored as a structure variable. Use enum data type, wherever applicable and use an efficient storage technique, such that the memory required is less compared to a normal structure. Print out the proportion of memory (per user) that your efficient design is using compared to a normal structure variable.	5		
