

Guru Nanak Dev Engineering College, Ludhiana

Department of Applied Sciences

Program	B.Tech.(CSE, CE, EE)	Semester	2
Subject Code	ESC-104	Subject Title	Programming for problem solving
Mid Semester Test (MST) No.	2	Course Coordinator(s)	Er.Goldendeeep Kaur Er.Kuljit Kaur, Er.Jaswant Singh Er.Ranjodh Kaur Er.Sidharth Jain
Max. Marks	24	Time Duration	1 hour 30 minutes
Date of MST	29 th May, 2023	Roll Number	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Define function. Also list the four predefined functions.	CO5, L2	2
Q2	Explain null pointer.	CO6,L5	2
Q3	Illustrate bubble sort with algorithm and example.	CO7, L3	4
Q4	Outline the concept of recursion. Write a program to find the factorial of a number using recursion.	CO4,L2	4
Q5	Differentiate between call by value and call by reference with suitable example.	CO5, L4	4
Q6	Demonstrate structure. Create a structure named library having following components (title, author-name, book-id, book-price). Make at least three entries into it.	CO6, L6	8

Course Outcomes (CO)

Students will be able to

1	To formulate simple algorithm for arithmetic and logical problems
2	To translate the algorithms to program(in c languages)
3	To test and execute the programs and correct syntax and logical errors
4	To implement conditional branching, iteration and recursion.
5	To decompose a problem into function and synthesize a complete program using divide and conquer approach.
6	To use array, pointer and structure to formulate algorithms and programs
7	To apply programming to solve matrix addition and multiplication problems and searching and sorting problems.
8	To apply programming to solve simple numerical method problems, namely root finding of function, differentiation of function and simple integration.

RBT	Lower Order Thinking Levels (LOTS)			Higher Order Thinking Levels (HOTS)		
	L1	L2	L3	L4	L5	L6
Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating