Guru Nanak Dev Engineering College, Ludhiana

Department of Applied Sciences

Program	B.Tech. 1st Year	**Semester**	I
Subject Code	ESC-104	**Subject Title**	Programming for Problem Solving
Mid Semester Exam (MSE) No.	I	**Course Coordinator(s)**	Ranjodh Kaur, Siddharth Jain, Gagneet Kaur, Kapil Sharma, Jaswant Singh, Sita Rani, Kuljit Kaur
Max. Marks	24	**Time Duration**	1 hour 30 minutes
Date of MSE	15th February, 2024	**Roll Number**	

Note: Attempt all questions. All assumptions must be clearly stated.

Q. No.	Question	COs, RBT level	MM
Q1	Differentiate between sematic and logical errors with the help of example(s).	CO1, L2	2

Q2	What will be the output for the following code snippet:
	`int main ( )`
	`{`
	`int i=3,j=3;`
	`for(i=3;i<=5;i++)`
	`{`
	`for(j=3;j<=5;j++)`
	`{`
	`if(i ==4 && j==4)`
	`{`
	`printf("I am applying continue statement");`
	`continue;`
	`}`
	`printf(" %d",i);`
	`printf(" %d",j);`
	`if(++i==6 || --j==7)`
	`{`
	`break;`
	`}`
	`}`
	`}`
	`printf(" %d",i);`
	`printf(" %d",j);`
	`return 0;`
	`}`
		CO4, L3	2

Q3	Briefly illustrate the process of compilation and linking in C language with the help of diagram.	CO2, L2	4
Q4	Given a number **N**. Write a program to find sum of the digits in the number **N**. (For example **N** is 231, answer will be 6. Value of **N** should be read through the keyboard and case must be processed if **N** is positive integer only).	CO4, L3	4
Q5	Compare and contrast various loops.	CO4, L4	4
Q6	Design a menu driven code that does the following: • If '1' is entered, user-defined function '**mul**' must be able to multiply two positive numbers using a user-defined function • If '2' is entered, user-defined function '**swap**' must be able to swap two numbers without using temporary variable. • If any other integer is entered, code must be able to terminate with a suitable message. **[All types of inputs must be read through the keyboard with positive integers only.]**	CO6, L6	8