Subject Code	ESC103	**Subject Title**	Programming for Problem Solving
Mid Semester Examination (MSE) No.	1	**Course Coordinator(s)**	Ranjodh Kaur, Siddharth Jain, Gagneet Kapil Sharma, Jaswant Singh, Sita Rani, Kaur, Paramveer Kaur, Lakhvir Kaur Grewal, Palak Sood, Meetali, Goldendeep Kaur, Kamaljeet Randeep Kaur, Harminder Kaur
Max. Marks	24	**Time Duration**	1 hour 30 minutes
Date of MSE	19/09/24	**Roll Number**	

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

Q. No.	Question	COs, RBT level
Q1	Differentiate between compiler and interpreter (at least 4 differences).	CO3, L2

Q2	What will be the output for the following code snippet:
	`int main() {`
	`  int a = 10, b = 0, c = 5;`
	
	`  if ((a > 5 && ++b) || (c == 4 && ++b)) {`
	`  cout << "Inside if: a = " << a << ", b = " << b << endl;`
	`  } else {`
	`  cout << "Inside else: a = " << a << ", b = " << b << endl;`
	`  }`
	
	`  return 0;`
	`}`
		CO2, L3

Q3	What goes behind the scene when you attempt to get an output from source code in C++? Elaborate the process steps with the help of diagram.	CO1, L2
Q4	Write a program to swap two positive integer numbers using bitwise operators. Provision to accept positive integer numbers should be made available.	CO2, L3
Q5	Explain implicit and explicit type conversions by using any scenario. **[Don't miss to explain scenario.]**	CO2, L4
Q6	Design a menu driven code that does the following: • If '1' is entered, must be able to find the greatest among three positive integer numbers entered by the user. • If '2' is entered, must be able to find square-root of a positive number entered by user. • If any other integer is entered, code must be able to terminate with a suitable message. **[Don't miss to draw flowchart(s).]**	CO4 L6