

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: BCA
BRANCH: BCA**

**SEMESTER : I
SESSION : MO/2025**

SUBJECT: CA25101 PROGRAMMING AND PROBLEM SOLVING USING C

TIME: 02 Hours

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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Q.1	What do you mean by variables and constants in C programming? List the rules for naming them. How are they declared? Explain with examples.	[5]	1	1,2
Q.2	Classify the different types of operators in C based on the number of operands used, and explain each category with examples. How do precedence and associativity affect the evaluation of expressions in C programming?	[5]	1	2,4
Q.3	Write a menu-driven program using switch statement that allows the user to perform the arithmetic operations (addition, subtraction, multiplication, and division) on two numbers. Ensure that the program handles invalid input and checks for errors such as division by zero.	[5]	1	3,4
Q.4	What are loops? Briefly explain the difference between the while loop and the do-while loop in context of their use in C program.	[5]	1	1,4
Q.5	What is an array? How do you declare and initialize a one-dimensional array? Explain with example.	[5]	2	1,2

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