

INDIRA UNIVERSITY, Pune

SCHOOL OF INFORMATION TECHNOLOGY-BCA

Term End Examination (2025 Pattern) December – 2025 - Semester – I

Subject Name: - Problem Solving using 'C' Programming
Subject Code: 25BCA101T

Max. Marks: 25
Time: 1:30 Hrs.

Instructions

- All Questions are Compulsory.

CO #	Cognitive Ability	Course Outcome
CO2	Understand	Explain the principles of structured programming and coding practices.
CO4	Analyze	Analyze problems logically to design step-by-step solutions using algorithms and programs.
CO6	Create	Develop modular, reusable, and efficient programs for real-world applications

Q1.	<p>Attempt any 5 out of 7. (1 mark each)</p> <p>a. Explain use of flowchart? b. Illustrate with an example the arithmetic statement in C programming. c. Describe how variables are named in C. d. Explain the use of relational operators. e. Describe an example of an enumerated data type declaration. f. Outline the definition of recursion. g. Explain the syntax of declaring a 1-D array.</p>	(5 Marks)	CO2
Q2.	<p>Attempt any 2 out of 4. (5 marks each)</p> <p>a. Examine how arithmetic operators are used in c programming. b. Analyze the below code. Predict the output and explain it's working.</p> <pre>#include <stdio.h> int main() { int n = 2; switch(n) { case 1: printf("One"); break; case 2: printf("Two"); break; case 3: printf("Three"); break; default: printf("None"); }</pre>	(10 Marks)	CO4

	<pre>return 0; }</pre> <p>c. Differentiate between library functions and user-defined functions with example.</p> <p>d. Analyze the syntax of array declaration and initialization with suitable examples.</p>		
	Attempt all questions. (5 marks each) (10 Marks)		
Q.3.	<p>a. Develop an algorithm and flowchart to calculate the area and perimeter of a rectangle using input values for length and breadth.</p> <p>b. Write a C program to print the multiplication table of a number entered by the user using a loop.</p>	CO6	
	OR		
	<p>a. Write a program using a function to swap two integers.</p> <p>b. Construct a program to accept, display and print the sum of elements of each row and sum of elements of each column of a matrix.</p>		
