Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – October 2025

Date: 31-10-2025 **Time:** 02:30Pm – 04:00Pm

School: SOIS	**Program:** BCA	
Course Code: CSA1500	**Course Name:** Problem Solving Techniques using C	
Semester: I	**Max Marks**:50	**Weightage**: 25%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**26**	**24**	**-**	**-**	**-**

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **5Q x 2M=10M**

1	Define an algorithm. List any two characteristics of a good algorithm.	**2 Marks**	**L1**	**CO1**
2	What is the purpose of a flowchart in problem-solving?	**2 Marks**	**L1**	**CO1**
3	Define typecasting in C. Give an example.	**2 Marks**	**L1**	**CO1**
4	Differentiate between implicit and explicit typecasting.	**2 Marks**	**L1**	**CO2**
5	Write the syntax of the for loop in C	**2 Marks**	**L1**	**CO2**

Part B

Answer the Questions. **Total Marks 40M**

6.	**a.**	Explain in detail the various steps involved in problem-solving.	**10 Marks**	**L1**	**CO1**
	b.	What are the different operators available in C?	**10 Marks**	**L1**	**CO1**
		Or			
7.	**a.**	Explain the basic structure of a C program with a neat diagram and example.	**10 Marks**	**L1**	**CO1**
	b.	Explain the input and output functions in C (scanf() and printf()) with suitable programs	**10 Marks**	**L1**	**CO1**

8.	**a.**	Write a C program that demonstrates explicit typecasting in different scenarios. Show at least one valid and one invalid case, and explain the output.	**10 Marks**	**L3**	**CO2**
	b.	Write a C program using nested if-else statements to find the largest of three numbers. Draw the corresponding flowchart and explain how the logic is applied.	**10 Marks**	**L3**	**CO2**
		Or			
9.	**a.**	Demonstrate expression evaluation in C with operator precedence and associativity. Give an example with step-by-step evaluation.	**10 Marks**	**L3**	**CO2**
	b.	Write a c Program and discuss the working of the switch statement with an example.	**10 Marks**	**L3**	**CO2**