



PRESIDENCY UNIVERSITY

BENGALURU

Roll No.														
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Make-up Examinations - December 2025

Date: 26-12-2025

Time: 09:30am - 12:30pm

School: SOIS	Program: BCA	
Course Code: CSA1001	Course Name: Problem Solving Using C	
Semester: MK	Max Marks: 100	Weightage: 50%

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

10Q x 2M=20M

1.	Define an algorithm. List any two characteristics of a good algorithm.	2 Marks	L1	CO1
2.	Name the four basic data types in C language.	2 Marks	L2	CO1
3.	List the arithmetic operators available in C.	2 Marks	L1	CO1
4.	Write the syntax of an if-else statement in C.	2 Marks	L1	CO2
5.	What is the role of the break statement in loops?	2 Marks	L1	CO2
6.	List the different types of looping statements in C.	2 Marks	L1	CO2
7.	Define an array in C.	2 Marks	L1	CO3
8.	What is a string in C?	2 Marks	L1	CO3
9.	Define modular programming.	2 Marks	L1	CO4
10.	What is a user-defined data type? Give one example.	2 Marks	L1	CO4

Part B

Answer the Questions.

Total Marks 80M

11.	a.	Explain the basic structure of a C program with a neat diagram and example.	10 Marks	L2	C01
	b.	<p>1. Explain the Integer (int) and Floating-point (float) data types in C. Discuss their size, range, and format specifiers. (5M)</p> <p>2. What are operators? Explain Relational and Logical Operators with examples and their truth tables. (5M)</p>	10 Marks	L3	C01
Or					
12.	a.	<p>1. Explain the Bitwise AND (&) and Bitwise OR () operators with examples. (5M)</p> <p>2. What is Operator Precedence and Associativity? Why is it important? Provide an example to illustrate (5M)</p>	10 Marks	L2	C01
	b.	Explain the input and output functions in C (scanf() and printf()) with suitable programs	10 Marks	L2	C01
Or					
13.	a.	Explain explicit typecasting with examples. Discuss valid and invalid cases.	10 Marks	L3	C02
	b.	Describe expression evaluation in C with operator precedence and associativity. Give an example with step-by-step evaluation.	10 Marks	L2	C02
Or					
14.	a.	Explain Conditional statements with syntax, flowchart, and example program.	10 Marks	L1	C02
	b.	<p>Evaluate the below Expressions step by step</p> $(10 + 5) * 3 - 12 / (6 - 2) + 18 \% 5 * 2$	10 Marks	L2	C02
Or					
15.	a.	Explain the concept of arrays in C with syntax, examples, and memory representation.	10 Marks	L2	C03
	b.	Describe the declaration, initialization, and accessing of elements in one-dimensional arrays with suitable examples.	10 Marks	L1	C03
Or					
16.	a.	Write a C program to perform the following operations on strings using built-in functions	10 Marks	L2	C03
	b.	Explain various methods of string initialization in C with suitable examples.	10 Marks	L3	C03

17.	a.	Explain in detail the different categories of string functions in C with examples for each type.	10 Marks	L2	C04
	b.	Explain user-defined data types in C with examples for typedef and enum.	10 Marks	L3	C04
Or					
18.	a.	Differentiate between structure and union. Write a C program to illustrate both.	10 Marks	L2	C04
	b.	Describe in detail the various file handling functions in C. Explain file opening modes with syntax and examples.	10 Marks	L2	C04