Course Code: **24BC1T02**

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

(AUTONOMOUS)

I-BCA I-Semester Regular/Supplementary Examinations (BR24), Feb - 2026

PROGRAMMING IN 'C' **(BCA)**

Time: 3 hours | Max. Marks: 70

Question Paper consists of Part-A and Part-B
*Answer **ALL** the question in **Part-A and Part-B***

PART–A (10X2 = 20M)

		Marks	CO	BL
1.a)	Explain the basic differences between variables and constants with examples.	(2M)	CO1	BL2
b)	Draw a basic flowchart for a "Hello, World!" program.	(2M)	CO1	BL3
c)	Define a conditional statement and explain the purpose of the **goto** statement.	(2M)	CO2	BL2
d)	Write a simple program to print numbers 1 to 5.	(2M)	CO2	BL3
e)	What is an array? Define a string in programming.	(2M)	CO3	BL2
f)	Compare a one-dimensional array with a two-dimensional array.	(2M)	CO3	BL2
g)	Explain the purpose of & operator.	(2M)	CO4	BL2
h)	Differentiate between structures and unions in C programming.	(2M)	CO4	BL3
i)	What is a function in programming?	(2M)	CO5	BL2
j)	Explain the recursion with a simple example.	(2M)	CO5	BL3

PART–B (5X10 = 50M)

		Marks	CO	BL
2a.	Explain the steps involved in the execution of a program. Explain the role of input and output operations in a program.	(5M)	CO1	BL2
b.	Compare and contrast the top-down approach and bottom-up approach for problem-solving.	(5M)		
	(OR)			
3a.	Explain the evolution of computers through different generations.	(5M)	CO1	BL2
b.	Describe the basic organization of a computer with a neat labelled diagram.	(5M)		
4a.	What is a **switch** statement? Explain its advantages over the **if-else** statement.	(4M)	CO2	BL3
b.	Write a program using a **switch** statement to perform basic arithmetic operations (addition, subtraction, multiplication, division) based on user input.	(6M)		
	(OR)			
5a.	What is the difference between **break** and **continue** statements? Provide examples to explain their use.	(5M)	CO2	BL3
b.	Write a program to check whether a number is positive, negative, or zero using **if-else** statements.	(5M)		
6a.	Explain with an example how to store and access elements of a two-dimensional array.	(5M)	CO3	BL3
b.	Write a program to add two 2x2 matrices.	(5M)		
	(OR)			

7a.	What is a string? Explain how strings differ from arrays of characters.	(5M)	CO3	B3
b.	Write a program to input a string from the user and display each character of the string on a new line.	(5M)		
8a.	What are user-defined data types? Explain how they help organize data in programming.	(5M)	CO4	BL3
b.	Write a program to create a union to store employee details like ID (integer), salary (float), and grade (character). Use the union to input and display details.	(5M)		
	(OR)			
9a.	Explain the concept of pointer arithmetic. What are the valid operations that can be performed on pointers.	(4M)	CO4	BL3
b.	Write a program to demonstrate the addition of two integer numbers using pointers.	(6M)		
10a.	What is file? Explain different types of file modes?	(5M)	CO5	BL3
b.	Explain different writing operation functions in FILEs with example.	(5M)		
	(OR)			
11a.	Describe the scope and lifetime of variables in a program. Give examples for each type of scope (local, global).	(5M)	CO5	BL3
b.	Write a simple program that demonstrates the scope of variables inside a function.	(5M)		

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