

CBCS SCHEME

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1BEIT105/205

First/Second Semester B.E./B.Tech. Degree Examination, June/July 2026 Programming in C

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks, L: Bloom's level, C: Course outcomes.*

Module – 1				M	L	C
Q.1	a.	Explain the basic structure of a C program with a neat diagram and a sample program.		8	L1	CO1
	b.	Define is a Variable. Explain the rules to declare a variable in C. Give examples for valid and invalid variables.		6	L1	CO1
	c.	Explain Relational and Logical operators with an illustrative example for each.		6	L2	CO1
OR						
Q.2	a.	What are the basic data types available in C?		6	L2	CO1
	b.	Develop an algorithm to find the area and perimeter of a circle. Also draw a flowchart.		6	L1	CO1
	c.	Write a note on bitwise operators. If a = 10 and b = 5, what is the value of each expression? i) a & b ii) a b iii) a ^ b iv) a << 2 v) b >> 1		8	L2	CO1
Module – 2						
Q.3	a.	Write a C program that takes three coefficients a, b, and c of a quadratic equation; ($ax^2 + bx + c = 0$) as input and compute all possible roots with appropriate messages.		6	L3	CO2
	b.	Explain switch statement with syntax and example program.		6	L2	CO2
	c.	Explain formatted input output functions with syntax and examples for each.		8	L2	CO2
OR						
Q.4	a.	Write a C program to find the largest of three numbers using nested if statement.		6	L3	CO2
	b.	Explain if-else and if-else-if Ladder statements with syntax and example.		6	L2	CO2
	c.	Explain different types of loops in C with syntax and example.		8	L2	CO2

Module – 3

Q.5	a.	What is an array? Explain the declaration and initialization of 1D array.	6	L2	CO3
	b.	Write a C program to search a key element in the given sorted array of integer numbers using binary search technique.	8	L3	CO3
	c.	Define Pointer. Explain pointer variable declaration and initialization with suitable example.	6	L2	CO3

OR

Q.6	a.	Define String. Explain any 2 string manipulation functions with suitable example.	6	L2	CO3
	b.	Write a C program to concatenate 2 strings without using built-in function.	6	L3	CO3
	c.	Write a C program to multiply two matrices by ensuring their multiplication compatibility.	8	L3	CO3

Module – 4

Q.7	a.	Explain function call, function definition and function prototype with syntax and example for each.	10	L2	CO3
	b.	Write a C program to swap 2 numbers using call by reference method.	6	L3	CO3
	c.	List the applications of functions.	4	L1	CO3

OR

Q.8	a.	Define Recursion. Write a C program to find the factorial of a given number using recursion.	6	L3	CO3
	b.	List and explain two techniques for passing the parameters from one function to another.	6	L2	CO3
	c.	Explain the dynamic allocation functions with syntax.	8	L2	CO3

Module – 5

Q.9	a.	What is a Structure? Explain the declaration of a structure with an example.	6	L2	CO4
	b.	Differentiate between Structures and Unions with syntax and example.	6	L2	CO4
	c.	Create a structure student having members Name and USN. Write a C program to read the details of the 5 students and print them.	8	L3	CO4

OR

Q.10	a.	Write a note on : i) Array of structure ii) Structure with in a structure	6	L2	CO4
	b.	Write a note on Bit-Fields and Enumerations.	6	L2	CO4
	c.	Create a structure to read and compute average marks of the students, print the list the students scoring above and below the average marks for a class of N students.	8	L3	CO4