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**Gandhi Institute of Engineering and Technology University, Odisha, Gunupur  
(GIET University)**



B.C.A. (First Semester - Regular) Examinations, January- 2026

**BCA251001 – Problem-Solving Techniques using C  
(BCA)**

Time: 2 hrs

Maximum: 60 Marks

**(The figures in the right hand margin indicate marks)**

**PART – A**

**(2 x 5 = 10 Marks)**

Q.1. Answer **ALL** questions

- |   | CO # | Blooms<br>Level |
|---|------|-----------------|
| a. Describe the purpose of the main() function in C.          | CO1  | K2              |
| b. What is the role of a compiler?                            | CO1  | k2              |
| c. What is recursion in c?                                    | CO3  | k1              |
| d. Explain the difference between array and structure.        | CO5  | k4              |
| e. What is the difference between for loop and do while loop? | CO2  | k4              |

**PART – B**

**(10 x5=50 Marks)**

Answer **ALL** questions

- |   | Marks | CO # | Blooms<br>Level |
|---|-------|------|-----------------|
| 2. a. Explain type conversions in C. Discuss its types.                   | 5     | CO1  | K2              |
| b. Write a program to take a character input and display its ASCII value. | 5     | CO1  | k3              |

(OR)

- |  |   |     |    |
|--|---|-----|----|
| c. Define algorithm. Write an algorithm to calculate simple interest.        | 5 | CO1 | k3 |
| d. Write a program to calculate the remainder of two numbers.                | 5 | CO1 | k3 |
| 3.a. Explain the switch statement with its syntax and example.               | 5 | CO2 | k2 |
| b. Write a c program to find the largest of n elements stored in an array a. | 5 | CO2 | k3 |

(OR)

- |  |   |     |    |
|--|---|-----|----|
| c. What is an array? write a program to calculate the sum of all elements in an array.                       | 5 | CO2 | k3 |
| d. Write a C Program to display array elements with addresses.   | 5 | CO2 | k3 |
| 4.a. Explain the following functions with syntax, usage and example. i) strlen() ii) strlen() (iii) strcat() | 5 | CO4 | k2 |
| b. Write a program to reverse a string in c.   | 5 | CO4 | k3 |

(OR)

- |  |   |     |    |
|--|---|-----|----|
| c. Write a C program to convert lowercase characters to uppercase. | 5 | CO4 | k3 |
|--|---|-----|----|

d.	Define pointer. Explain pointer declaration, initialization, and dereferencing with examples	5	CO4	k2
5.a.	Explain user-defined functions and standard library functions in C with examples.	5	CO3	k2
b.	Write a C program which contains three user defined functions namely add(), subtract() and multiply().	5	CO3	k3
(OR)				
c.	Explain call by value and call by reference in the function.	5	CO3	k4
d.	What is recursion .Illustrate with a program.	5	CO3	k3
6.a.	Explain structure briefly with an example	5	CO5	k2
b.	Explain union in C with examples	5	CO5	k2
(OR)				
c.	Explain enumeration in C. Write a program using enum to represent days of the week.	5	CO5	k3
d.	Explain the difference between structures and arrays.	5	CO5	k4

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