QP CODE
A4022

Enrollment Number: ……

Name: ……

BCA DEGREE EXAMINATIONS, DECEMBER 2024
First Semester
Bachelor of Computer Applications
B21CA02DC – Problem Solving and Programming in C
(2024 January admissions)

Time: 3 Hours **Max Marks: 70**

Section A

Answer any ten of the following questions in a word or sentence each. Each question carries 1 mark.

1. ---------- is a pictorial representation of an algorithm.
2. Who developed the C language?
3. Hexadecimal integers are preceded with ----------
4. What is the priority of operators *, / and % in C language?
5. The library functions **printf()** and **scanf()** are associated with header file **……**
6. Predict the output of the following program

```
int main()

{

        int i;

        for(i=0;i<25;i++);

        printf("%d", i);

        return 0;
}
```

7. Which is the End delimiter of a string or character array?
8. Which operator is used to access the value stored at a pointer's address?
9. Define nested function.
10. The default parameter passing technique is ____
11. List down any two type conversion methods.
12. What is the default storage class in C?
13. Which function is used to open a file in C?
14. What does argc represent in the context of command-line arguments?

15. Give an example of a formatted file output function.

(1X10=10)

Section B

Answer any five of the following questions in two or three sentences each. Each question carries 2 marks.

16. Define Algorithm.
17. What do you mean by C tokens? List down various tokens.
18. Write down the usage of the conditional operator.
19. Write short notes on printf() and scanf() function.
20. What is the significance of malloc() and calloc() functions ?
21. What do you mean by user-defined functions? Write down the advantages of using function.
22. Discuss the advantages and disadvantages of structure.
23. Define Static variable.
24. Compare type conversion and type casting.
25. Define command line arguments.

(2X5=10)

Section C

Answer any five of the following questions in a paragraph each. Each question carries 4 marks.

26. Explain approaches in problem-solving.
27. What do you understand by identifiers and keywords?
28. Explain entry-controlled loop and exit-controlled loop.
29. Write short notes on the declaration and initialization of arrays.
30. Differentiate call by value and call by reference with example.
31. Explain various string manipulation functions.
32. Explain local and global variables.
33. Compare array and structure.
34. Write short notes on register variable.
35. List any 4 modes of opening files in C and explain.

(4X5=20)

Section D

Answer any two of the following questions in three pages each. Each question carries 15 marks.

36. Write a detailed note on the algorithm, flowchart, and symbols used in the flowchart with example.
37. Explain different loop control structures used in C programs with examples.
38. Explain recursion and its types with an example program.
39. Write a C program to read n array elements and sort in ascending order.

(15X2=30)