

**B.C.A Semester - 1 (CBCS) Examination
July-2025 (OLD COURSE)**

PROBLEM SOLVING METHODOLOGIES AND PROGRAMMING IN C (CORE)

Time: 2:30 Hours

Marks: 70

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que-1(A) Answer following Questions. (04)

- 1) Who developed C Language?
- 2) _____ is the name used for variables, constants, functions, etc.
- 3) In C _____ pre-processor is used to include the contents of a file (usually a header file) into your program before compilation.
- 4) Which symbol is used for logical AND and OR operator in C?

Que-1(B) Answer Any One. (02)

- 1) Explain Dry Run.
- 2) What is type casting?

Que-1(C) Answer Any One. (03)

- 1) What is flow chart? Explain with example.
- 2) What are PRE PROCESSORS? Explain with examples.

Que-1(D) Answer Any One. (05)

- 1) Write short note on data types in C.
- 2) Explain C Tokens.

Que-2(A) Answer following Questions. (04)

- 1) What is the symbol for ternary operator?
- 2) _____ is post tested loop.
- 3) if any of the case do not match in switch, ____ block will be executed..
- 4) Give the output

```
for(int i = 1; i <= 10; i++) {  
    printf("%d", ++i);  
}
```

Que-2(B) Answer Any One. (02)

- 1) Explain ternary operator with example.
- 2) Explain goto statement with example.

Que-2(C) Answer Any One. (03)

- 1) Explain break and continue statement.
- 2) Explain nested if with example.

Que-2(D) Answer Any One. (05)

- 1) Explain Types of loops.
- 2) Explain switch statement with example.

Que-3(A) Answer following Questions. (04)

- 1) _____ returns the arc sine (inverse sine) of a value in radians.
- 2) _____ is a variable which stores address of another variable.
- 3) A function is calling itself is known as _____.
- 4) Give output of following.

```
int a = 10; int *p = &a;  
printf("%d", *p);
```

- Que-3(B) Answer Any One. (02)**
1) Explain strcpy and strncpy function with example.
2) Explain fabs and fmod functions with example.
- Que-3(C) Answer Any One. (03)**
1) What is call by reference?
2) Explain recursion with example.
- Que-3(D) Answer Any One. (05)**
1) Explain types of functions.
2) Write short note on storage classes.
- Que-4(A) Answer following Questions. (04)**
1) Which type of array is used to represent the matrix?
2) How do you pass a structure to function by reference?
3) A structure containing other structure as a member is known as _____.
4) A user defined data type grouped with different data type variable is known as _____.
- Que-4(B) Answer Any One. (02)**
1) What is an array? List out advantages of an array.
2) Explain difference between union and structure.
- Que-4(C) Answer Any One. (03)**
1) Explain Memory allocation functions with example.
2) Explain String Array with example.
- Que-4(D) Answer Any One. (05)**
1) Explain how to pass and return array to function with example.
2) Explain Multidimensional Array.
- Que-5(A) Answer following Questions. (04)**
1) How do you declare an array of five integer pointers?
2) _____ moves the file pointer to a specified location.
3) _____ stores formatted data into a string with size limit.
4) Which operator is used to access structure members using pointer?
- Que-5(B) Answer Any One. (02)**
1) What is pointer?
2) Explain fopen() and fclose() function.
- Que-5(C) Answer Any One. (03)**
1) Explain pointer to an array and pointer within array with example.
2) Explain command line argument with example.
- Que-5(D) Answer Any One. (05)**
1) Explain pointer to structure and pointer within structure with example.
2) Accept 10 students rollno, name, contact number, marks from user, write it into file. Read the file and display all records on the screen.
