N. B.: (1) **All** questions are **compulsory**.
         (2) Numbers to the **right** indicate **marks**.
         (3) Draw **neat labeled diagrams** wherever **necessary**.

1. Attempt *any three* of the following: 15 M
    a. Write a note on program development cycle.
    b. Explain the concept of pseudocde and flowchart.
    c. What are advantages and limitations of flowchart.
    d. Write a short note on structure of C program.
    e. What are identifiers and keywords? Give details about any 3 keywords.
    f. Write a short note on symbolic constant.

2. Attempt *any three* of the following: 15 M
    a. Write a C program to add three numbers.
    b. Explain bitwise operator with proper example.
    c. Explain following standard C library functions:
        1. <stdio.h>   2. <string.h>   3.<ctype.h>   4.<math.h>   5.<stdlib.h>
    d. Explain getchar() and putchar() function with programming example.
    e. What are operators in C? Explain any four operators.
    f. Write a C Program to find average of marks. Program should take input for 5 subjects
        marks from the user.

3. Attempt *any three* of the following: 15 M
    a. Write a C program to find whether entered number is positive ,negative or
        zero.
    b. Explain switch statements with proper example.
    c. Describe for loop with proper example.
    d. Explain break and continue statements.
    e. What is call by value and call by reference in C?
    f. Write a short note on recursion.

4. Attempt *any three* of the following: 15 M
    a. What are automatic storage classes? Explain with proper example.
    b. Write a note on preprocessors in C.
    c. Write a C program to show the use of single dimensional array
    d. Write a note on passing array to function.
    e. What are different string handling functions?
    f. Give the difference between macros and functions.

5. Attempt *any three* of the following: 15 M
   a. What are pointers? Explain with proper example.
   b. Write a C program to perform addition and subtraction of two pointer variables.
   c. Write a note on null pointer.
   d. Write a C program for pointer to array.
   e. Explain the concept of pointer to union.
   f. Write a code in C to create structure student with element roll number, name, and marks.