DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, APRIL - 2025

PROGRAMMING IN C

[Maximum marks: 100]   [Time: 3 Hours]

PART – A
Maximum marks: 10

I. (Answer *all* the questions in one or two sentences. Each question carries **2** marks)

1. Define constant.

2. Write the syntax of switch – case statement in C.

3. Define a pointer.

4. State the need of arrays.

5. Write the use and syntax of the function strcat.   (5 x 2 = 10)

PART – B
Maximum marks: 30

II. (Answer any *five* of the following questions. Each question carries **6** marks)

1. Explain the type conversion in assignment statements.

2. Explain different arithmetic operators in C with examples.

3. Differentiate actual parameter and formal parameter.

4. Write a program to find the factorial of a number using recursion.

5. Explain how an array is passed to a function in C.

6. Write a program to count the number of even and odd elements in a matrix.

7. Explain how an array of structure is declared in C   (5 x 6 = 30)

PART – C
Maximum marks: 60
(Answer *one full* question from each unit. Each full question carries **15** marks)

UNIT – I

III. (a) Explain while and do-while loops with example.   (8)

     (b) Write a program to check whether a number is palindrome or not.   (7)

OR

IV. (a) Explain break, continue and goto statements with example. (8)

(b) Write a program to generate multiplication table of a given number. (7)

UNIT - II

V. (a) Explain call by value and call by reference methods with examples. (8)

(b) Write a program to swap the values of two numbers using pointer. (7)

OR

VI. (a) Explain different data types in C. (8)

(b) Write a program to find the sum of N natural numbers using recursion. (7)

UNIT - III

VII. (a) Illustrate array of pointers with an example. (8)

(b) Write a program to calculate the average of all elements stored in an array. (7)

OR

VIII. (a) Explain two-dimensional array initialization with example. (8)

(b) Write a program to find the largest element in an array using pointers. (7)

UNIT – IV

IX. (a) Explain about the string functions strlen, strcmp, strcpy. (8)

(b) Define a structure named Rectangle to represent a rectangle with its length and breadth. Write a program to calculate the area and perimeter of two rectangles and display the result. (7)

OR

X. (a) Explain about declaring a structure with the help of an example. (8)

(b) Write a program to check whether a string is palindrome or not. (7)