

2025

COMPUTER SCIENCE — MDC

Paper : CC-2

(Problem Solving Using C)

Full Marks : 75

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer **question no. 1** and
any three from **Section-A** and **any five** from **Section B**.

1. Answer **any five** questions : 2×5

- (a) Define increment and decrement operators with examples.
- (b) What is an enumerated data type in C?
- (c) Illustrate two cases where switch case is more preferable than if-else.
- (d) Explain the difference between formal and actual parameters with example.
- (e) Give the output :

```
float le, b, ar;  
le = 1.50; b = 0.60;  
ar = (1/2) * le * b;  
printf (“ %f”, ar);
```
- (f) What is the purpose of the return statement in C?
- (g) What are the different modes in which a file can be opened?
- (h) Define structure. Write the syntax to declare a structure in C.

Section – A

- 2. Write a program that accepts 10 numbers in an array and prints the second largest number without using any sorting technique. 5
- 3. Explain the difference between while and do-while loops with example. 5
- 4. Write a C program to find the reverse of a string without using `strrev()` function. 5

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5. Is recursion always better than iteration? Justify with an example. 5
6. Write a program in C to find the sum of digits of a 5 digit number. 5

Section – B

7. (a) Explain the concept of dynamic memory allocation in C with example.
(b) Define union. Write the syntax and a small program using union. 5+(2+3)
8. (a) Describe the different types of storage class with suitable example.
(b) Define local and global variables with example.
(c) What is a syntax error? Give an example. 5+3+2
9. (a) What does # include<stdio.h> mean?
(b) Write a program to store and display data of 3 students using structures.
(c) Define a static variable. How is it different from global variable? 2+5+3
10. (a) Explain how multidimensional arrays are stored in memory.
(b) Define the concept of type casting with an example. 5+5
11. (a) Write a program in C to find out the largest of three numbers.
(b) Write a program to check whether a string is palindrome or not. (2+3)+5
12. (a) Explain any two modes for accessing files in C.
(b) Write a program in C to swap the contents of two variables without using a third variable. 5+5
13. (a) What is sizeof operator? Give an example.
(b) Give the syntax of a ternary operator with a simple example.
(c) What is the difference between a logical and a relational operator in C?
(d) What is the difference between “=” and “==”? Explain with example. 2+3+2+3
14. (a) Explain the working of a switch-case statement with a calculator example (add, subtract, multiply, divide).
(b) What happens if we forget the break in a switch block? 7+3