Department of Computer Science and Engineering,
Anna University, Chennai- 600025
CS23C04 – Programming in C (R 2023)
Practical
June – November 2025
Year/Sem/Batch : I/I/ Q

| Week 4 | C Programs using Arrays | 17 – Sep – 2025 |

Observation (5 Marks)

1. Define an array. Why do we use arrays in C?
2. Differentiate one-dimensional and a two-dimensional array?
3. Give the syntax and example of 1D array and 2D array declaration and initialization.
4. Can the size of an array be changed at runtime? Why or why not?
5. What happens if we access an array element out of its bounds?
6. Why do we use arrays instead of declaring multiple variables for similar data?
7. Explain the difference between int arr[5] = {1,2}; and int arr[] = {1,2};.
8. Explain how 2D arrays are declared in C. Give an example of matrix representation.
9. Write a C program to read and display elements of a 1D array.
10. Write a program to print the array elements in reverse order.
11. Write a program to find the maximum and minimum elements in an array.
12. Write a program to calculate the sum and average of array elements.
13. Write a program to count even and odd numbers in an array.
14. Write a program to count positive, negative, and zero values in an array.
15. Write a program to find the length of an array.

Execution (15 Marks)

16. Write a program to sort array elements in ascending order (use Bubble Sort).
17. Write a program to copy all elements of one array into another array.
18. Write a program to search for an element in an array (linear search).
19. Write a program to perform binary search on a sorted array.
20. Write a program to remove duplicate elements from an array.
21. Write a program to store and display marks of 5 students using an array.
22. Write a program to find the highest marks scored by a student.
23. Write a program to find the frequency of each element in an array.
24. Write a program to find the second largest and second smallest element in an array.
25. Write a program to find the sum of alternate elements in an array.