

Roll.No.

25UCSCT1001

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

B.Sc.Computer Science - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - I

25UCSCT1001 - Problem Solving through Programming in C

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. What is pseudocode? Explain with example, how it is used as a problem solving tool.
2. Illustrate how to convert a decimal number to binary base.
3. How is an array of pointers declared? Give a simple example.
4. Define array. Explain with suitable example how to declare and initialize One Dimensional array.
5. What is the use of escape sequences? Write any four examples.
6. Prepare an algorithm to reverse the digits of an integer.
7. Discuss the concept of the Top-down approach and Bottom-up approach.
8. Distinguish between identifiers and keywords with examples.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. What is flowchart? Explain different symbols used for flowchart.
10. Prepare an algorithm for the addition of two matrices and illustrate each step.
11. Discuss dynamic memory allocation techniques (malloc, calloc, realloc, free) with a program using one of them.
12. Write a C program to calculate the sum of all even numbers between 1 and n using a for loop. Explain the logic and flow.
13. Compare nested functions and recursive functions with suitable examples.
