

**BACHELOR OF TECHNOLOGY (CBCS - 2023)**  
**B. Tech. Sem-I Computer Science & Engineering : WINTER: 2025**  
**SUBJECT: PROGRAMMING & PROBLEM SOLVING**

Day : Thursday  
Date : 18/12/2025

**W-27611-2025**

Time : 10:00 AM-01:00 PM  
Max. Marks : 60

**N.B.**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Assume suitable data, if necessary.
- 4) Draw neat and labeled diagrams, **wherever** necessary.

**Q.1** Explain general problem solving strategies with suitable example. (10)

**OR**

**Q.1** Write a short note on : (10)  
i) Algorithm  
ii) Flowchart  
ii) Pseudo Code

**Q.2** Write a C program to demonstrate the use of switch case statement. (10)

**OR**

**Q.2** Explain the concept of variable in C. How variables are declared in C? Explain it with declaration syntax and memory representation. (10)

**Q.3** Write a C program to do sum of all elements in the given 1D array. (10)

**OR**

**Q.3** What is mean by string? What are the standard string library functions in C. (10)

**Q.4** Write a C program to find the factorial of the given number using function. (10)

**OR**

**Q.4** Write any C program to implement the concept of structure. (10)

**Q.5** What is mean by pointers in C? Explain its declaration, initialization and use in problem solving. (10)

**OR**

**Q.5** Write a note on pointer arithmetic. (10)

**Q.6** Differentiate between text file and binary file. (10)

**OR**

**Q.6** Explain fopen(), fclose(), fseek(), fgets(), fputs() file handling function in detail. (10)

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