ST. FRANCIS DE SALES COLLEGE

A FRANSALIAN INSTITUTE OF HIGHER EDUCATION AUTONOMOUS

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Electronics City P.O, Bengaluru - 560 100, Karnataka, INDIA (+91) 8088140679 pro@sfscollege.in www.sfscollege.in

END SEMESTER EXAMINATION – DECEMBER 2024

COMPUTER SCIENCE – I SEMESTER BSC

24BSC14A/C - PROBLEM SOLVING TECHNIQUE

Time: 3 Hours **Max. Marks: 80**

Instruction: *Answer should be written completely in English*

SECTION – A

Answer any **FIVE** questions. Each question carries **TWO** marks. **(5 X 2 = 10)**

1. Define Sorting.
2. Draw a flowchart to find multiplication of two numbers.
3. Name any five keywords in C.
4. Write an algorithm for exchanging the values of two variables.
5. Define an identifier.
6. Differentiate between pre-increment and post-increment operators.
7. Define a ternary operator.
8. Define fprintf() and fscanf().

SECTION -B

Answer any **SIX** questions. Each question carries **FIVE** marks. **(6 X 5 = 30)**

9. Explain the role and characteristics of algorithm.
10. Distinguish between structure and union in C.
11. Write short notes on C tokens with examples.
12. Briefly explain about operators in C
13. Write a C program to find the factorial of a number.
14. Write an algorithm to swap the values of two variables.
15. Write a C program to display Fibonacci Series.
16. What is an array? Explain one- and two-dimensional array in C.

SECTION – C

Answer any **FIVE** questions. Each question carries **EIGHT** marks. **(5 X 8 = 40)**

17. Explain different data types in C. (8)

18. Write a C program to find biggest of three numbers. (8)

19. a) Explain printf() and scanf() functions with a suitable example. (4)

    b) Explain the process of sorting by insertion with algorithm. (4)

20. a) Define pointer and write a C program to swap two numbers using pointers. (4)

    b) Write a C program to print the array elements in reverse order. (4)

21. a) Explain files in C. Write a C program to read a file using fopen(). (4)

    b) Explain Error Handling in File System. (4)

22. Explain the process of binary search and write an algorithm for it. (8)