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Reg. No.

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I Semester B.Sc. Degree Examination, December/January - 2025/26

COMPUTER SCIENCE

Problem Solving Techniques

(SEP Scheme(F+R))

Time : 3 Hours

Instructions to Candidates:

Answer All the Sections.



Maximum Marks : 80

SECTION - A

I. Answer any Ten questions. Each question carries Two marks. (10×2=20)

1. Define Flowchart. Mention its types.
2. What is space complexity of an algorithm?
3. Mention types of Asymptotic Notations.
4. Why 'C' is called middle-level language?
5. What are preprocessor directives?
6. Mention any 4 C-Tokens.
7. What is the difference between = and == ?
8. What is an array? How it is declared?
9. Mention any 4 string library functions?
10. What is pointer? Write syntax.
11. What is sorting? List any two sorting Techniques.
12. What is pattern matching? Give an example.

SECTION - B

II. Answer any Six questions. Each question carries Five marks. (6×5=30)

13. Write an algorithm to find GCD of two numbers.
14. Explain the syntax of switch-case statement with an example.
15. What is data type? Explain different data types in C.

[P.T.O.]



16. Write a program to find the given number is prime or not.
17. Explain Bitwise operators in C with example.
18. Write a program to search an Element using Linear Search.
19. Explain the difference between call by value and call by reference.
20. Explain selection sort with example.

SECTION - C

III. Answer any Three questions. Each question carries Ten marks. (3×10=30)

21. a) Briefly explain Best Case, Average case and worst case Time Complexity of an algorithm. (5)
b) Explain mathematical functions and notations. (5)
 22. a) Explain the Basic structure of 'C' program. (5)
b) Write a 'C' program to find factorial of a given number. (5)
 23. Explain the following with suitable examples.
a) Type conversion (5)
b) Difference between Arrays and structure. (5)
 24. a) Write a note on pattern searching in C programming. (5)
b) Write an algorithm and flowchart to find greatest of 2 numbers. (5)
 25. a) Write a C program to perform multiplication of 2 matrices. (8)
b) What is hash search? (2)
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