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DCCS101

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I Semester B.Sc. Degree Examination, February/March - 2024

COMPUTER SCIENCE

Problem Solving Techniques

(NEP Scheme 2021 Onwards)

Paper : I



Time : 2½ Hours

Maximum Marks : 60

*Instructions to Candidates:*Answer any **FOUR** questions from each part.**PART - A**Answer any **FOUR** questions. Each question carries 2 marks.

(4×2=8)

1. Mention the characteristics of algorithm.
2. What is priori and posteriori analysis?
3. Define a variable. Give the syntax for declaring a variable.
4. Define structure. Give the general format for defining a structure.
5. What is a pointer? How do you declare a pointer?
6. What is sorting? Mention any two sorting techniques.

PART - BAnswer any **FOUR** questions. Each question carries 5 marks.

(4×5=20)

7. Explain in detail the steps in problem solving methodology.
8. What is an identifier? Explain the rules for naming an identifier with examples.
9. Explain logical operators in C.
10. Explain the working of if statement and if - else statement with suitable examples.
11. What is an array? Explain the memory representation of one dimensional array with suitable example.
12. What is a function? Mention the advantages of functions.

[P.T.O.]



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PART - C

Answer any **FOUR** questions. Each question carries 8 marks.

(4×8=32)

13. a) Explain the various practical applications of algorithms.
b) Write an algorithm to exchange the values of two variables using temporary variables. (5+3)
14. Explain in detail the structure of a C program with an example. (8)
15. a) Explain the working of for - loop with an example.
b) What is a string? Give the general syntax for declaring a string. Mention the various string operations. (4+4)
16. a) Differentiate between structure and union.
b) Write an algorithm to find the gcd of two integers. (4+4)
17. Write a C program to perform addition and subtraction of two matrices. (8)
18. a) Write an algorithm to sort n numbers using selection sort.
b) What is pattern matching? Mention the applications of pattern matching. (5+3)
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