I Semester B.C.A. Degree Examination, February/March 2024
(NEP) (F+R)
COMPUTER SCIENCE
Problem Solving Techniques

Time : 2½ Hours   Max. Marks : 60

Instruction : *Answer **any four** questions from **each** Part.*

PART – A

Answer **any four** questions, **each** question carries **2** marks.   (4×2=8)

1. Mention any two characteristics of an algorithm.

2. Define an identifier. Give an example for a valid identifier.

3. What is a constant ? How it is declared in C ?

4. What is modular programming ?

5. Give the general syntax of if-else statement.

6. What is an array ? How is it initialized ?

PART – B

Answer **any four** questions, **each** question carries **5** marks.   (4×5=20)

7. Write an algorithm for summation of N-natural numbers.

8. Explain the syntax of switch-case statement with an example.

9. What is data type ? Explain different data types with an example each.

10. Write a program to find the sum of all the digits of a given integer.

11. Mention any five string library functions.

12. Write an algorithm to perform hash search on the given set of elements.

P.T.O.

PART – C

Answer **any four** questions, **each** question carries **8** marks. (4×8=32)

13. a) Explain loop control structures in C with a general syntax for each.   6

     b) What is the differences between break and continue statements ?   2

14. Write a program to multiply two matrices.   8

15. a) Distinguish structure and union with an example.   4

     b) Explain orders of growth.   4

16. a) What is a pointer ? Write a program to find the size of integer, character and real pointers.   6

     b) Write an algorithm to find the smallest exact divisor of an integer.   2

17. a) Write an algorithm to find the maximum element in an array of size 'N'.   4

     b) Write a C program to swap the values of two variables.   4

18. a) Write a C-program to sort n-numbers using bubble sort.   6

     b) Explain pattern searching.   2

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