I Semester B.C.A. Degree Examination, May 2022
(NEP – 2021-22 and Onwards)
COMPUTER SCIENCE
Paper – 1.2 : Problem Solving Techniques

Time : 2½ Hours   Max. Marks : 60

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

PART – A

Answer **any 4** questions. **Each** question carries **2** marks.   (4×2=8)

1. Define Algorithm.

2. Define Token with an example.

3. Write any two rules for Identifiers.

4. Define Binary Search.

5. What is sorting ? List any two sorting techniques.

6. What is an array ? Give the syntax.

PART – B

Answer **any 4** questions. **Each** question carries **5** marks.   (4×5=20)

7. Write an algorithm to exchange the values of two variables.

8. Write a note on break and continue with an example.

9. Illustrate the declaration and initialization of pointers with an example.

10. Write a C program to remove the duplicate entries in a single dimensional array.

11. How do find the smallest divisor of an integer ?

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

PART – C

Answer any 4 questions. Each question carries 8 marks. (4×8=32)

13. a) Explain the various Asymptotic Notations with their significance. **6**

    b) What is pattern searching ? **2**

14. a) Explain the structure of a C program. **4**

    b) Differentiate between if and if else. **1**
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15. Write a C program to find the roots of the Quadratic Equation. **8**

16. a) Write a 'C' program to demonstrate the following string operations. **4**

     i) strepy ()   ii) strcat()   iii) Strlen()   iv) strrer()

    b) Write a short note on hash search. **4**

17. a) Write a C program to read 2 × 2 matrices and perform Addition and Subtraction operations on the matrices. **6**

    b) What do you mean by two way merge ? **2**

18. a) Perform the Bubble sort operation on the following elements 23, 5, 13, 65, 8 to arrange them in ascending order. https://www.bubangalore.com **6**

    b) Write any two application of text line editing. **2**

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