B. Voc. DEGREE (C.B.C.S.) EXAMINATION, NOVEMBER 2022

(2022 Admissions (regular) 2021 Admissions (Improvement / Supplementary), 2020, 2019, 2018, Admissions Supplementary)

SEMESTER I - SKILL COURSE (SOFTWARE DEVELOPMENT)

VSD1S02B18 - PROBLEM SOLVING TECHNIQUES

Time : 3 Hours   **Maximum Marks : 80**

Part A

I. Answer any Ten questions. Each question carries 2 marks   **(10x2=20)**

1. Define is worst case.

2. Describe the advantages and disadvantages of flowchart.

3. List any 2 algorithms based on divide and conquer approach.

4. Discuss the logic of check the number is palindrome or not.

5. List some of the important skills needed for a programmer.

6. List out the Steps involved in computer programming

7. With an example discuss prime number and its special characteristics.

8. Discuss factoring method.

9. Write algorithm to print total number of elements present in an array.

10. List applications of array.

11. Define Binary search techniques

12. Write down the names of different types of sorting methods

Part B

II. Answer any Six questions. Each question carries 5 marks   **(6x5=30)**

13. Design an algorithm that reads a list of numbers and make a count of positive numbers and negative numbers in the given set. Assume numbers of your own choice.

14. What is a Flowchart? What are the advantages of Flowchart over Algorithm?

15. Explain flowchart. List down the advantages and disadvantages of flowchart.

16. Draw a flow chart to exchange of two numbers

17. Design an algorithm to produce a list of all exact divisors of a given positive number.

18. Write an algorithm to find the square root of a number

19. Draw a flow chart to find the smallest element in an array

20. Write an algorithm to print the prime factors of an integer

21. Explain hash searching.

Part C

III. Answer any Two questions. Each question carries 15 marks   **(2x15=30)**

22. Explain the reversing the digits of an integer and counting with suitable example.

23. Write an algorithm to find the smallest divisor of an integer? Draw a flow chart to find the smallest divisor of an integer with suitable example.

24. Design and implement an algorithm to remove duplicate values in an array.

25. Develop algorithm for Insertion Sort with Example