Department of Information Technology

23CST101   Problem solving and C Programming

PART B

1. Explain the algorithm GCD and find LCM
2. Discuss with suitable examples

    i)Find minimum in a list

    ii)Find Maximum in a list

3. Describe Build an algorithm for the following

    (i)   Prime number or not

    (ii)   odd or even

4. Explain the rules for pseudo code and uses of keywords
5. Explain the following programming language

    - Machine language

    - Assembly language

    - High level language

6. Neat sketch explain the following building blocks of alg.

    i). Statements ii). Control Flow

7. Describe State and function in Building Block and examples.

8. Draw a flow chart print all prime number between to intervals

9. Describe pseudo code for Fibonacci sequence using

10. Draw a flow chart for factorial given number (3*3)

11. Describe the program to insert an element in a sorted list

12. Draw the flow chart sum of n numbers

13. Summarize the difference between algorithm, flow chart and pseudo code

14. Explain algorithmic problem-solving technique in detail.

15. Explain program life cycle

16. What is pseudo code? Explain how it can be designed and write benefits and limitations.

17. Explain guidelines for preparing flowcharts, benefits and limitation of flowcharts and preparing flow chart for quadratic equation

18. Describe the algorithm for finding sum and average of n numbers. Also state the properties of a good algorithm

19. Describe the algorithm of towers of honai problem.

20. Develop the flowchart for checking whether the given year is leap year or not

21. Draw flow chart along with the pseudo code to compute
    - Greatest of three numbers
    - Factorial of the given number

22. Enumerate the Structure of C programming with a Sample C program.

23. Identify the possible errors that occurs during executing a C program

24. Define Data type. Interpret about Derived and User-Defined Data type. Write the significance of each data type.

25. Give the algorithm (Normal English), Flowchart and Pseudo code to Reverse the given number

26. Ravi buys an old scooter for Rs. A and spends Rs. B on its repairs. If he sells the scooter for Rs. C, what is his gain %? Write an algorithm and Pseudo code to compute the gain % received by Ravi.

27. Illustrate in detail about the building blocks of algorithms with your own example.

28. Explain in details about Computer Hardware and Software.

29. Demonstrate the Structure of C Programming with your examples.

30. ii) Explain the process of compilation and linking.

31. Read total shopping amount purchased in the shop, and then apply the discount as per the following discount criteria then calculate and print the final amount that has been paid by the customer after subtracting the discount amount

32. Shopping Amount	33. Discount in %
34. 5000 and above	35. 25
36. 1000 to 4999	37. 10
38. Below 1000	39. 5

40. Write down the algorithm, Flowchart and Pseudocode for the above-mentioned problem.

41. Analyze and illustrate the various data types used for student management system.