Roll No. _____

SVIS 317 A-15
B.Sc.VIth Semester Degree Examination
Computer Science
(Data Structure using C++)
Paper : CS - 601

Time : 3 Hours

Maximum Marks : 80

SECTION - A

I. Answer the following questions:

(15×1=15)

1. Define data structure.

2. What is Doubly Linked list?

3. Name any two applications of stack

4. Define sorting.

5. Which Queue is called a Double ended Queue?

6. Define Null matrices

7. Define Sibiling

8. What is B - Tree?

9. Define intersection of sets

10. What is the complexity of linear search algorithm?

11. Define Hash key?

12. Which sorting technique is called a divide and conquer technique?

13. What do you mean by header - node?

14. Define Merging.

15. What is FRONT and REAR.

SECTION - B

II. Answer **Any Five** questions: (5×5=25)

16. Write an algorithm to insert a node at front in doubly linked list.

17. Write a C++ program to insert a new element into an array.

18. What is STACK? Explain POP operation of STACK.

19. Distinguish between ordinary Queue and circular Queue.

20. Write the different operations on sets.

21. Explain complete Binary tree.

22. Write an algorithm for Binary tree.

SECTION - C

III. Answer **Any Four** questions: (4×10=40)

23. Explain different types of insertion and deletion of a node in a circular linked list.

24. Explain Tower of Hanoi problem.

25. What is Queue? Explain the procedure to perform different operations on it.

26. Explain selection sort with an example.

27. Explain Binary Tree Traversal

28. Write a note on:
    a)   Dynamic memory
    b)   Sparse Matrices