**STACKS AND QUEUES**

1. Answer the following brief:

a. Differentiate between Stack & queue.

b. Which data structures is used in recursion? Explain.

c. What is the necessity of infix to port fix conversion?

2. List and explain the basic operations performed on a stack.

3. Explain the differences between stack implementation using array and linked list.

4. What are the operations that can be performed on queue? Explain with examples.

5. Explain different types of queues with examples.

6. Convert the infix expression (a + b) - (c \*d) into post fix form.

7. What are the applications of stack.

8. What are the advantages of circular linked list.

9. Write a c program to convert an infix expression to its equivalent postfix expression.

10. What are the applications of priority queues?

11. Write an algorithm to insert and delete a key from circular queue.

12. Discuss the procedure to convert infix expression to postfix expression with the following expression: ((A –(B+C) \* D) / (E+F)).

13. Why we use postfix/prefix expressions than infix form?

14. How circular linked list are useful in polynomial representation?

15. Describe the main features of priority queues.

16. How do you delete an element from heap?

17. Explain the step-by-step procedure for sorting the following unordered list of elements 52, 37, 63, 14, 17, 8, 6, 25 using Heap sort techniques.

18. Describe the Insertion and Deletion operations on Circular linked lists.

19. Construct max heap for the following elements: 40, 80, 30, 20, 10, 40, 30, 60, 100, 70, 160, 50, 130, 110, 120. Explain the technique.

20. Apply heap sort on set of any ten elements and explain its working.