DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

1. Define a structure to represent student with the attributes stud-id, name, marks in 3 subjects. Create array of students by allocating memory dynamically and Implement the following operations

   i) Insert Student ii) Delete student iii) Search for a student with highest marks in each subject and display the information of that student.

   Display the contents of the array after each insertion and deletion operation in a table format.

2. Implement circular single linked list with header node to perform the following operations

   i) Insert by order ii) Delete by position iii) Search for an item by key

   Display the list contents after each operation

3. Implement circular double linked list with header node to perform the following operations

   i) Insert by order ii) Delete by key iii) Search by position

   Display the list contents after each operation

4. Implement circular single linked list with header node to perform the following operations

   i) Insert front ii) Delete Immediate left node of the kth node iii) Search for an item by position

   Display the list contents after each operation

5. Implement circular double linked list with header node to perform the following operations

   i) Insert front ii) Delete Immediate left node of the kth node iii) Search for an item by position

Display the list contents after each operation

6. Implement circular single linked list with header node to perform the following operations

ii) Insert rear ii) Delete Immediate right node of the kth node iii) Search for an item by value

Display the list contents after each operation

7. Implement circular double linked list with header node to perform the following operations

iii) Insert rear ii) Delete Immediate right node of the kth node iii) Search for an item by value

Display the list contents after each operation

8. Implement circular single linked list with header node to perform the following operations

iv) Insert by position ii) Delete rear iii) Search for an item by value

Display the list contents after each operation

9. Implement circular double linked list with header node perform the following operations

i)Insert by position ii) Delete rear iii) Search for an item by value

Display the list contents after each operation

10. Develop a menu driven program to convert infix expression to postfix expression using stack (Test for nested parenthesized expressions)

11. Develop a menu driven program to convert infix expression to prefix expression using stack (Test for nested parenthesized expressions)

12. Develop a menu driven program to evaluate the postfix and prefix expressions using stack.

13. To implement Circular Queue of Jobs (where each Job is associated with the attributes: Jobid, Jobname, Time required to complete the job) with dynamic memory allocation mechanism using array storage representation.(Represent Queue using structure)

14. To implement Priority Queue of Jobs (where each Job is associated with the attributes: Jobid, Jobname, Job priority) with dynamic memory allocation mechanism using array storage representation.(Represent Queue using structure)

15. To implement Double Ended Queue of Jobs (where each Job is associated with the attributes: Jobid, Jobname, Time required to complete the job) with dynamic memory allocation mechanism using array storage representation.(Represent Queue using structure)

16. Develop a menu driven program to implement Binary Tree/Binary search tree to perform the following operations.
    i) Insertion ii) Traversing in different order(Depth first Traversal) iii) Deletion

17. Develop a menu driven program to implement Binary Tree/Binary search tree to perform the following operations.
    i)Insertion ii) Traversing in different order(Depth first Traversal) iii) Search and display the node and its parent node. iv) Count No of Leaves

18. Develop a menu driven program to implement Binary Tree/Binary search tree to perform the following operations.
    i)Insertion ii) Traversing in different order(Depth first Traversal) iii) Search and display the node and its parent node. iv) Count No of non Leaves

19. Develop a menu driven program to implement Binary Tree/Binary search tree to perform the following operations.
    i)Insertion ii) Traversing in different order(Depth first Traversal) iii) Search and display the node and its parent node. iv) To find height

20. Develop a menu driven program to implement Binary Tree/Binary search tree to perform the following operations.

i)Insertion ii) Traversing in different order(Depth first Traversal) iii) Search and display the node and its parent node. iv) Count No of nodes.

21. Develop a menu driven program to implement Binary Tree/Binary search tree to perform the following operations.

i)Insertion ii) Traversing in different order(Depth first Traversal) iii) Search and display the node and its parent node. iv) To Create a copy of the tree.

Note:

-> Each students should be randomly allocated with any one problem.

➔ Write up to be evaluated for 25 marks.

➔ Viva for 5 marks

➔ Observation book submission , program execution and submission during the lab session to be evaluated for 20 marks.