GOVERNMENT POLYTECHNIC ARVI
Computer Engineering Department
Assignment on Linked List

1. Draw structure to following: i) Singly linked list ii) Doubly linked list iii) Circular singly linked list iv) Circular doubly linked list.

2. Distinguish between singly linked list and doubly linked list. (Minimum six points each)

3. Describe queue implementation using linked list.

4. Construct a singly linked list using data field: 22, 27, 86, 48, 75 and show procedure step-by-step with the help of diagram start to end.

5. Describe the concept of linked list with the terminologies: node, next pointer null pointer sand empty list.

6. Write an algorithm to insert a new node at the beginning in linear list.

7. Explain the operations on a singly linked list.

8. Compare linear list with circular list. (Any four points).

9. Create a singly linked list using data fields 15, 20, 22, 58, 60. Search a node 22 from the singly linked list and show procedure step-by-step with the help of diagram from start to end.

10. Write an algorithm to count number of nodes in singly linked list.

11. Create a singly linked list using data fields 15, 20, 22, 40, 59 and show procedure step-by-step with the help of diagram from start to end.

12. Write an algorithm to search an element in linked list.

13. Describe circular linked list with suitable diagram. State advantages of circular linked list over linear linked list.

14. Write algorithm to delete an intermediate node from a singly linked list.

15. Create singly linked list using data fields 10, 20, 30, 40, 50 and show step-by step procedure with the help of diagram from start to end

16. Describe advantages of circular link list over linear link list with example.

17. Describe circular linked list with suitable diagram. State advantages of circular linked list over linear linked list.

18. Write an algorithm to delete a node at the beginning from a singly Linked List.

19. Create a singly Linked List using data fields 10, 20, 30, 40, 50 and show procedure step-by-step with the help of diagram from start to end.

20. Create a singly linked list using data fields 10, 20, 30, 40, 50. Search a node 40 from the singly linked list and show procedure step-by-step with the help of the diagram from start to end.

21. Explain node structure for single linked list. Also write advantages of singly list over array. (any Two)

22. Write the 'C' function for: (i) searching a node in single linked list. (ii) counting number of nodes in single linked list.