



# SHRI LABHUBHAI TRIVEDI INST. OF ENGG.&TECH., RAJKOT

## DI - SEMESTER-III • QUESTION BANK

### Computer Science & Engineering (Diploma) 4330704 - Data Structures and Algorithm

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1. What is Data Structure? Explain Primitive and Non Primitive data structure with example.
2. What is algorithm? Explain key features of a algorithm.
3. Define String. & list out string Operation.
4. Explain string length operation with algorithm
5. What is stack? Write PUSH and POP algorithms.
6. What is Queue? Write Insertion & deletion algorithms for simple queue
7. What is Circular queue? Compare circular queue with normal queue.
8. Give Differentiate circular queue and simple queue.
9. Define Linked List. Explain types of Linked List.
10. Difference between Singly Linked List & Circular Linked List.
11. Write a algorithm to insert a node in Single Linked List.
12. Write a algorithm to delete a last node of singly linked list
13. Define: Tree, Leaf Node, Root Node, Binary Tree, Ancestor Node, Descendant Node, Complete Binary, Strictly Binary Tree.
14. Sort the following data using Bubble Sort and write the algorithm.  
5,1,4,2,8
15. Sort the following data using Merge Sort and write the algorithm.  
38,27,43,3,9,82,10
16. Generate Binary Search Tree for the following data.  
60,53,65,74,41,16,55,46,25,42,63,64,62,70
17. Difference between primitive and non primitive data structure.
18. Explain string Compare operation with algorithm.

**While(!(succeed = try()));**

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