

[CB-BS425]

**AT THE END OF FOURTH SEMESTER - (CBCS PATTERN)**

**DEGREE EXAMINATIONS**

**COMPUTER SCIENCE - IV - DATA STRUCTURES**

*( From the Admitted Batch of 2015-16)*

**Time : 3 Hours**

**Maximum : 75 Marks**

**SECTION - A**

**I. Answer any Five questions.**

**(5×5=25)**

1. What is the difference between arrays and linked list?
2. How stacks are used? Explain about it.
3. Explain about properties of Binary Tree.
4. Write about connected components involved in Graphs.
5. What do you mean by insertion sort? How it occurs?
6. Define ADT and its advantages.
7. Write about Priority Queues.
8. What is Threaded Binary Tree? Explain.

**SECTION - B**

**II. Answer ALL the questions.**

**(5×10=50)**

9. a) Explain Primitive and Non-Primitive data structures.  
(OR)  
b) Discuss about Linked List concepts and its operations.
10. a) Explain implementing a stack of a linked list structure.  
(OR)  
b) What is Deque? What are the different techniques used to represent Deque? Explain.
11. a) Write about different Traversing Techniques with an example.  
(OR)  
b) With an example inserting and deleting an element from BST. Write an algorithm for the same.
12. a) Write about various Graph Travelling techniques.  
(OR)  
b) Define spanning tree. Explain different ways of constructing minimum cost spanning tree.
13. a) What is searching? Explain different types of searching techniques.  
(OR)  
b) Explain Quick sort with suitable example. Write an algorithm for quick sort.