

Time: 2 hours

Max. Marks: 75

Answer any five questions  
All questions carry equal marks

- 1.a) Write an algorithm of Insert and Delete operation in Singly Linked List.  
b) Convert the following infix expression into postfix expression  
 $A + B - C * D * E \$ F \$ G$  [7+8]
2. Explain about the various hash collision resolution techniques with an example. [15]
3. Insert the following list of elements from the AVL tree. Delete the elements 18, 2 and 30 from the AVL tree 12, 30, 36, 18, 25, 9, 4, 2, 17, 14, 20, 47 [15]
- 4.a) Differentiate between BFS and DFS.  
b) Explain about external sorting with an example. [7+8]
- 5.a) Write an algorithm of compressed Trie.  
b) Explain about the Brute force algorithm with an example. [7+8]
- 6.a) Write a program to implement stack using linked list.  
b) Explain the operations of Queue with an example. [8+7]
7. Explain about:  
a) Rehashing  
b) Extendible hashing. [15]
8. Write an algorithm to delete an element from the binary search tree. [15]