## **CSH11 Advanced Data Structures**

## **Lab Programs**

1. Consider telephone book database of N clients. Make use of a hash table implementation to quickly look up client ‘s telephone number. Use a collision resolution strategy of your choice.
2. A Dictionary stores keywords & its meanings. Provide facility for adding new keywords, deleting keywords, updating values of any entry. Provide facility to display whole data sorted in ascending/ Descending order. Use any data structure of your choice for implementation.
3. Implement the locator-based method before(l) as well as the closest Before(l) in a dictionary realized using an ordered sequence. Use a skip list to implement the solution.
4. Beginning with an empty tree, construct a height balanced binary search tree by inserting the values in the order given. After constructing the tree
5. Insert new node
6. Find number of nodes in longest path
7. Minimum data value found in the tree
8. Search a value
9. Visit the nodes of the tree following pre-order traversal
10. Implement the following operations on a splay tree.
11. Insert
12. Delete
13. Search
14. Pre-order Traversal
15. Implement an optimal pattern matching algorithm for the given input text and pattern. The time complexity of the solution must be O(m+n), where n is the size of input text and m is the size of pattern.
16. Develop an application to compute the longest common subsequence between two input strings with a polynomial time complexity.
17. Develop an application that produces Huffman codes for the given text.