**UNIT I**

1. **Explain the term algorithm. List and explain the characterstics of an algorithm.**
2. **List and explain various asymptotic notations and mention its properties.**
3. **Explain the Master Theorm for Divide and Conquer.**
4. **Explain the performance characterstics of Algorithms.**
5. **Space complexity**
6. **Time complexity**
7. **Write a note on types of Analysis.**
8. **Why do we analyse algorithm.**
9. **What do you mean by Rates of Growth. Explin some of the commonly used Rates of Growth.**
10. **Explain the following:**
11. **Big-O Notation**
12. **Omega Notation**
13. **Theta Notation**

**UNIT II**

1. **Explain the term tree.Also explain different types of binary tree.**
2. **Explain pre-order, in-order and post-order traversals with example.**
3. **Write short note on binary reach trees**
4. **Describe AVL tree.**
5. **List the applications of the graph.**
6. **Write a note on**
7. **DFS**
8. **BFS**
9. **Explain adjacency matrix and adjacency list.**
10. **Write a short note on Dijkstra’s a;gorithm.**
11. **Illustrate on Kruskal and Prim’s algorithms.**
12. **Explain Binary Tree Traversals.**
13. **Explain Minimum spanning tree in detail.**
14. **Describe on Shortest Spanning Tree.**
15. **What are Selection Algorithms?**
16. **Write a python program for finding smallest Elements in Sorted order,**
17. **Write and explain a python program for Selection by sorting.**

**UNIT III**

1. **Explain detail Divide and Conquer strategy.**
2. **Write a note on advantages and disadvantages of divide and conquer.**
3. **What is Master Theorm. Explain in detail the Master Theorm**
4. **Explain the below dynamic strategy problems:**
5. **Factorial problem**
6. **Knapsack problem**
7. **What is dynamic programming strategy. Explain its properties also.**
8. **Explain Huffman coding in detail with example.**
9. **What do you mean by greedy algorithms. State its advantages and disadvantages.**
10. **Explain the properties of greedy algorithms.**
11. **What are the different approaches in Dynamic Programming.**
12. **Explain the different applications of Divide and Conquer.**
13. **Explain in detail the classification on the basis of Design method of algorithms.**
14. **Write a python program for finding smallest and largest elemnts in an ayyay A using Selection algorithm. Discuss its time complexity**

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