

Data Structures Unit Wise Questions

Unit-I

1. Define Data Structure? And Explain in detail about fundamental data structures?
2. Explain about ADT with example? Define asymptotic notation and explain its types with simple examples?
3. Explain about analysis of algorithms with example?
4. Define arrays and explain its operations?
5. Explain in detail about stack and queues with its operations?
6. What is expression evaluation and explain its types and convert given prefix equation to post and prefix equations?

$$K + L - M * N + (O \wedge P) * W / U / V * T + Q$$

7. What is polynomial equation and explain with simple example?

Unit-II

8. What is nonlinear data structure? Explain in detail?
9. Explain fundamental concepts of trees and explain about binary search trees with its applications?
10. What Threaded binary trees and explain with simple example?
11. Define graph and explain its terminology and its representations?
12. Explain set and union find operations in graphs?
13. Explain about graph traversal techniques?
14. Explain about given below
 - (a). Krushkal's Algorithm
 - (b). Prime's Algorithm

Unit-III

15. Explain about AVL trees and its operations?
16. Explain Red-Black Tress and its operations?
17. Explain about Splay Trees and its operations?
18. Explain what is Heap trees and its types and its operations?

Unit-IV

19. Explain about given sorting techniques with algorithms and their time complexities?
 - (a). Insertion Sort
 - (b). Quick Sort
 - (c). Heap Sort
 - (d). Radix or Bucket Sort
20. Explain about given below
 - (a). K –Way merging
 - (b). Sorting with disks

Unit-V

20. Explain about searching techniques with simple example and their time complexities(Linear, Binary)
21. Explain about B and B+ Trees and its differences?
22. Explain about given below
 - (a). Hash tables
 - (b). Hash Index
 - (c). Cylinder Surface Indexing

Note: May be a chance to ask algorithm or a programs in main examination, which available in your lab record, Prepare for that also)

(Second Assignment Questions.....10,11,12,14,15,16,20,21,22)