Data structure –Imp questions

Unit 1

1. Define data structure ? what are the types of data structure?
2. Explain about algorithm, flowchart, pseudo code with example?
3. Explain about algorithm analysis?
4. Define linear list (array)? what is the representation and operations of linear list ?
5. Explain about 1-D , 2-D representation (memory allocation)? What are pros and cons of linear list(array)?
   (or) advantages and disadvantages of array ?
6. Explain about ordered list?
7. Define stack ? what is representation and operations of stack?
8. Explain about arithmetic expression notations (prefix, infix, postfix) ?
9. Explain about stack applications
      (or)
   Explain about convert from infix to post fix expression?
   Explain about evaluation of postfix expression?
10.   Explain about processing of function call ?
11.   Define string? Explain reverse string with example?

Unit 2

1. Define recursion ? write difference between recursion and iteration ?
2. Define queue? What is the representation of queue and operations of queue?
3. Define circular queue? What is the representation of circular queue and operations of queue?
4. Define Dqueue(double ended queue? what are the operations of Dqueue?
5. Define linked list ? what is the representation of linked list?
6. Explain stack using linked list?
7. Explain queue using linked list?

Unit-3

1. Define tree ? what is the representation of tree ?
2. Define BST(binary search tree) ? explain about tree traversal?
3. Define Graph ? what is the representation of graphs?
4. Explain about graph traversal?
   (or)
   Explain about Breadth first search(BFS) with example?
   Explain about Depth first search(DFS) with example?
5. Explain about spanning tree with prims algorithm?
6. Explain about spanning tree with kruskal's algorithm?
7. Explain about hashing function with collision resolution straggles

Unit-4

1. Define linear search (sequential) and explain with example?
2. Define binary search and explain with example?
3. Explain about bubble sort with example and program?
4. Explain about selection sort with example and program?
5. Explain about insertion sort with example and program?
6. Explain about quick sort with example and program?
7. Explain about merge sort with example and program?
8. Explain about heap sort implementation?