Unit 1 Basic Concept and Introduction to Database

1. What is a data structure?
2. Why do we need data structures?
3. List some common data structures.
4. How data structures are classified?
5. Differentiate linear and non-linear data structure.
6. Define ADT (Abstract Data Type)
7. Mention the features of ADT
8. Define List ADT
9. What are benefits of ADT?
10. Explain the various operations of the list ADT with examples

Unit 2 Linear Data Structure

1. Define non-linear data structure
2. Define sorting
3. Mention the types of sorting
4. What do you mean by internal and external sorting?
5. How the insertion sort is done with the array?
6. Differentiate between merge sort and quick sort?
7. What is mergesort?
8. Define searching
9. Mention the types of searching
10. What is meant by linear search?
11. What is binary search?

Unit 3 Linked List

1. What are the ways of implementing linked list?
2. What are the types of linked lists?
3. How the singly linked lists can be represented?
4. How the doubly linked list can be represented?
5. When singly linked list can be represented as circular linked list?
6. When doubly linked list can be represented as circular linked list?
7. What are the advantages of linked list?
8. Mention the demerits of linked list
9. What are the operations performed in list?
10. What is a circular linked list?

Unit 4 Stack

1. Define Stack.
2. What are the operations of the stack?
3. Write the routine to push a element into a stack.
4. How the operations performed on linked list implementation of stack?
5. What are the applications of stack?
6. What are the methods to implement stack in C?
7. How the stack is implemented by linked list?
8. Write the routine to pop a element from a stack.
9. Distinguish between stack and queue.
10. What are the features of stacks?

Unit 5 Queue

1. Define queue.
2. What are the operations of a queue?
3. Write the routine to insert a element onto a queue.
4. What are the types of queue?
5. Define double ended queue
6. What are the methods to implement queue in C?
7. How the queue is implemented by linked list?
8. Write the routine to delete a element from a queue
9. What are the applications of queue?
10. Define circular queue

Unit 6 Tree

1. Define tree?
2. Explain the representations of priority queue.
3. What are the applications of binary tree?
4. What are the two methods of binary tree implementation?
5. What is meant by traversing?
6. What are the two methods of binary tree implementation?
7. What are the different types of traversing?
8. What is a balance factor in AVL trees?
9. Define expression trees?
10. What is meant by binary search tree?

Unit 7 Graph

1. Define Graph?
2. Define biconnected graph.
3. Define adjacent nodes?
4. What is a directed graph?
5. Define out degree of a graph?
6. What is an acyclic graph?
7. Name the different ways of representing a graph?
8. What is the use of Kruskal's algorithm and who discovered it?
9. Define minimum cost spanning tree?
10. Define Basic Operations of Graph.