A complete web enabled Education Administration Software

Sr. No.	Topic Name
1	Arrays:Definition, Single and Multidimensional Arrays,Representation of Arrays:Row Major Order, and Column Major Order
2	Derivation of Index Formulae for 1-D, 2-D array
3	Derivation of Index Formulae for 3D array, Sparse Matrices and their representations
4	Array Implementation & Pointer Implementation of Singly Linked Lists
5	Doubly Linked List, Operations on Linked List: Insertion, Deletion,
6	Circularly Linked List, Operations on Linked List: Insertion, Deletion,
7	Polynomial Representation & Addition Subtraction & Multiplications of Single variable & Two variables Polynomials
8	Stack Abstract data type, Array & Linked Implementation of Stack in C
9	Application of stack: Prefix and Postfix Expressions,
10	Infix to postfix expression, Evaluation of postfix expression
11	Recursion: Principles of recursion, Tail recursion
12	Removal of recursion Problem solving using iteration and recursion with examples such as binary search, Fibonacci numbers
13	recursion with examples such Hanoi towers. Trade-offs between iteration and recursion.
14	Queues: Operations on Queue: Create, Add, Delete, Full & Empty, Circular queues,
15	Array & linked implementation of queues
16	Array & linked Dequeue & Priority Queue
17	Index Sequential Search
18	Concept of Hashing & Collision resolution Techniques used in Hashing.
19	Data Structure for Graph Representations: Adjacency Matrices, Adjacency List,
20	Graph Traversal: Depth First Search
21	Breadth First Search, Connected Component
22	Spanning Trees, Minimum Cost Spanning Trees: Prims algorithm
23	Kruskal algorithm
24	Transitive Closure & Shortest Path algorithm: Warshal Algorithm
25	Dijikstra Algorithm. Topological Sort
26	Basic terminology used with Tree, Binary Trees, and Binary Tree Representation: Array Representation and Pointer (Linked List), Representation, Binary Search Tree, Strictly Binary Tree, Complete Binary Tree. Extende BinaryTrees
27	Tree Traversal algorithms: In-order, Pre-order, and Post-order,

Sr. No.	Topic Name
28	Constructing Binary Tree from given Tree Traversal, Operation of Insertion, Deletion, Searching
29	Concept & Basic Operations for AVL Tree,
30	Rotation in AVL Trees
31	B trees insertion
32	B tree deletion, B+ tree
33	Binary Heaps, min heap, max heap
34	Heaps as priority queue
35	Elements of dynamic programming
36	Longest common subsequence
37	Optimal binary search trees
38	0/1 knapsack problem
39	Elements of the greedy strategy
40	Huffman codes
41	Offline caching
42	Fractional knapsack
43	Back Tracking, Sum of subset
44	N queens problem
45	Bipartite graph, maximum bipartite matching , The stable-marriage problem