

Hour	Unit	Topic	Teaching Methodology	Remarks
1	I	Introduction to Data Structures – Basic Concepts	Whiteboard	
2	I	Notations of Time & Space Complexity	Whiteboard	
3	I	Performance Analysis of Algorithms	Whiteboard	
4	I	Iterative Algorithms – Analysis	Whiteboard	
5	I	Recursive Algorithms – Analysis	Whiteboard	
6	I	Asymptotic Notations: Big O, Omega, Theta, little o	Whiteboard	
7	II	Linear Search – Algorithm & Analysis	Whiteboard	
8	II	Binary Search – Algorithm & Analysis	Whiteboard	
9	II	Introduction to Hashing & Hash Functions	Whiteboard	
10	II	Collision Resolution Techniques	Whiteboard	
11	II	Introduction to Sorting – Methodology & Overview	Whiteboard	
12	II	Selection Sort – Algorithm & Analysis	Whiteboard	
13	II	Bubble Sort – Algorithm & Analysis	Whiteboard	
14	II	Insertion Sort – Algorithm & Analysis	Whiteboard	
15	II	Quick Sort – Algorithm & Analysis	Whiteboard	
16	II	Merge Sort – Algorithm & Analysis	Whiteboard	
17	II	Heap Sort – Algorithm & Analysis	Whiteboard	
18	III	Single Linked List – Introduction & Comparison with Arrays	Whiteboard	
19	III	Single Linked List – Creation & Traversing	Whiteboard	
20	III	Single Linked List – Insertion & Deletion	Whiteboard	
21	III	Searching in Single Linked List	Whiteboard	
22	III	Doubly Linked List – Introduction & Representation	Whiteboard	
23	III	Doubly Linked List – Creation, Insertion & Deletion	Whiteboard	
24	III	Circular Linked List – Introduction & Operations	Whiteboard	
25	III	Applications: Polynomial Expressions	Whiteboard	
26	IV	Stacks – Definition & Introduction	Whiteboard	

27	IV	Stack Operations: Push & Pop	Whiteboard	
28	IV	Applications of Stacks: Infix to Postfix Conversion	Whiteboard	
29	IV	Applications of Stacks: Evaluation of Postfix Expressions	Whiteboard	
30	IV	Queues – Definition & Introduction	Whiteboard	
31	IV	Simple Queue – Operations: Enqueue & Dequeue	Whiteboard	
32	IV	Circular Queue – Operations	Whiteboard	
33	IV	Implementation of Stack using Linked Lists	Whiteboard	
34	IV	Implementation of Queue using Linked Lists	Whiteboard	
35	V	Trees – Basic Terminology	Whiteboard	
36	V	Binary Tree Traversals: Preorder, Inorder, Postorder	Whiteboard	
37	V	Binary Search Tree – Insertion, Deletion & Searching	Whiteboard	
38	V	Graphs – Basic Terminologies & Representations	Whiteboard	
39	V	Graph Traversal Algorithms: BFS	Whiteboard	
40	V	Graph Traversal Algorithms: DFS	Whiteboard	