August

Week 2: Introduction: Elementary data organization, Data Structure definition, Data type vs. data structure, Categories of data structures, Data structure operations, Applications of data structures,
Week 3: Algorithms complexity and time-space tradeoff, Big-O notation. Strings: Introduction
Week 4: Strings, String operations, Pattern matching algorithms.

September

Week 1: Arrays: Introduction, Linear arrays, Representation of linear array in memory, Traversal, Insertions,
Week 2: Deletion in an array, Multidimensional arrays, Parallel arrays, Sparce matrices.
Week 3: Programming questions on Arrays.
Week 4: Linked List: Introduction, Array vs. linked list, Representation of linked lists in memory, Traversal, Insertion, Deletion, searching in a linked list, Header linked list, Circular linked list

October

Week 1: Two-way linked list, Garbage collection, Applications of linked lists. Algorithms for Insertion, deletion in array, Single linked list
Week 2: Programming questions on linked list.
Week 3: Stack: Introduction, Array and linked representation of stacks, Operations on stacks,
Week 4: Applications of stacks: Polish notation, Recursion.

November

Week 1: Programming question on stacks
Week 2: Queues: Introduction, Array and linked representation of queues, Operations on queues,
Week 3: Deques, Priority Queues, Applications of queues.
Week 4: Programming questions on Queues.

December

Week 1: Tree: Introduction, Definition, Representing Binary tree in memory, **Week 2:** Traversing binary trees, Traversal algorithms using stacks and using recursion.
Week 3: Graph: Introduction, Graph theory terminology
Week 4: Sequential and linked representation of graphs.

January

Revision.