1. Algorithms and complexity [Chap. 2]

2. Asymptotic Growth of Functions (Big-O, etc.) [Chap. 3]

3. Recurrences [Chap. 4]
   (a) First order linear.
   (b) Divide and conquer.
   (c) Full history.
   (d) Substitution method.
   (e) Recursion trees.
   (f) Master theorem for divide and conquer.
   (g) Generating functions.


5. Searching and Sorting [Chap. 6, 7, 8, 9]
   (a) Linear and binary search.
   (b) Quicksort and average case analysis.
   (c) Mergesort, insertion sort, selection sort.
   (d) Priority queues and heaps.
   (e) Order statistics.
   (f) Applications of searching and order statistics.
   (g) Lower bounds on the complexity of sorting.

6. Advanced Search Structures [Chap. 12, 13, 18]
   (a) Search trees: basic properties, red/black trees, B-trees.

   (a) Definitions, implementations.
   (b) Traversals: DFS, BFS.
   (c) Topological sort.