2. Data Structures (CS-107) (4-0-0)

Introduction to Data Structures, algorithms, pseudocode, time and space complexities; arrays, sparse matrix, stacks, recursion, queues, priority queues, linked lists, Introduction to trees, forest, binary tree, threaded binary tree, traversal techniques, Binary Search Trees, AVL trees, B-trees, B+ trees, Introduction to Graphs, DFS, BFS. Sorting and searching algorithms, hashing.

References:
1. Horowitz Ellis and Sahni Sartaj, Fundamentals of Data Structures, W H Freeman and Co, 1988.
2. Tremblay Jean-Paul and Sorenson Paul G., An Introduction to Data Structures With Applications, Second Edition, McGraw-Hill, Inc.
3. Kruse Robert L., Data Structures and Program Design, Prentice Hall, 2007
4. Gilberg Richard F. and Forouzan Behrouz A., Data Structures: A Pseudocode Approach with C, Cengage Learning, 2004
5. Cormen Thomas H., Introduction to Algorithms, MIT Press, 2009.