

Lecture Number	Topics to be covered	Date
UNIT – I: Introduction to Data Structures		
1	Introduction to Data Structures	01 September 2020
2	Types of Data Structures	02 September 2020
3	Programs on Structures and Arrays	03 September 2020
4	Linear list- Single Linked List ,Types of Linked List	05 September 2020
5	Operations and Implementation of Single Linked List	08 September 2020
6	Implementation of Doubly Linked List	09 September 2020
7	Implementation of Circular Linked List	10 September 2020
8	Stack Operations ,Array Implementation	12 September 2020
9	Stack Operations ,Linked List Implementation	15 September 2020
10	Queue Operations, Array Implementation	16 September 2020
11	Queue Operations, Linked List Implementation	17 September 2020
12	Stack Applications	19 September 2020
13		22 September 2020
UNIT-II: Dictionaries		
14	Introduction-Dictionaries	23 September 2020
15	Linear list representation Dictionaries	24 September 2020
16	Introduction - Skip List Representation	26 September 2020
17	Operations- Insertion, Deletion	29 September 2020
18	Operations- Searching	30 September 2020
19	Hash Table Representation	01 October 2020
20	Hash Function, Collision Resolution –Separate Chaining	03 October 2020
21	Open addressing-Linear probing, Quadratic Probing	06 October 2020
22	Double hashing	07 October 2020
23	Rehashing, extendible hashing	08 October 2020
24	Revision and Important Questions Discussion	10 October 2020
UNIT-III: Search Trees		
25	Trees – definition, terminology	13 October 2020
26	Binary Search trees-definition, Implementation	14 October 2020
27	Operations-Searching, Insertion	15 October 2020
28	Operations Deletion	27 October 2020
29	Tree Traversals	28 October 2020
30	Program for Tree Traversals	29 October 2020
31	AVL Trees, Definition, Height of an AVL Tree	31 October 2020
32	Operations of AVL -Insertion	10 November 2020
33	AVL operations Deletion and Searching	11 November 2020
34	Red Black Trees-Definition	12 November 2020
35	Rotations on Red black Trees	14 November 2020
36	Splay Trees- Introduction	17 November 2020
37	Revision and Important Questions Discussion	18 November 2020
UNIT-IV: Graphs and Sorting		
38	Introduction-Graphs	19 November 2020
39	Graphs –definition , Terminology	21 November 2020
40	Graph Traversal Methods	24 November 2020
41	Types of graph traversal methods	25 November 2020
42	Programs on Graph Traversal	26 November 2020

43	Introduction to sorting and Searching	28 November 2020
44	Types of Searching Linear Search and Binary Search	01 December 2020
45	External Sorting –Model of Sorting	02 December 2020
46	Merge Sort-Algorithm and Program	03 December 2020
47	Program on Selection Sort	05 December 2020
48	Program on Bubble Sort	08 December 2020
49	Program on Insertion Sort	09 December 2020
50	Revision and Important Questions Discussion	10 December 2020
UNIT-V: Pattern Matching and Tries		
51	Introduction- Pattern Matching and Tries	12 December 2020
52	Pattern Matching Algorithms	15 December 2020
53	Brute-Force Algorithm	16 December 2020
54	Boyer-Moore Algorithm	17 December 2020
55	Knuth-Morris-Pratt algorithm	19 December 2020
56	Standard Tries	22 December 2020
57	Compressed Tries	23 December 2020
58	Suffix Tries	24 December 2020
59	Revision and Important Questions Discussion	29 December 2020
60	Revision	31 December 2020
61	Revision	02 January 2021

TEXT BOOKS:

1. Data structures, Algorithms and Applications in C++, 2nd Edition, Sartaj Sahni, Universities Press.
2. Data Structures using C – A. S. Tanenbaum, Y. Langsam, and M. J. Augenstein, PHI/Pearson Education

REFERENCE BOOKS:

1. Data Structures: A Pseudocode Approach with C, 2nd Edition, R. F. Gilberg and B. A. Forouzan , Cengage Learning

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