

Lesson Plan / Teaching Plan / Lecture Plan with Progress : B Tech - 3rd Semester : 2025-26

Course Name (Code) : Data Structure & Algorithm(CEU-201-V)

Faculty - Ms.Amita Gautam

Topics / lectures are arranged in sequence - same - as to be taught in the class. Maintain data related to "Date" in its hard copy.					
S. No.	Lecture No	Topic Description	Teaching Pedagogy	Reference Material	Remarks, if any
1	1	Elementary Data Organizations	Board	T1	
2	2	Data Structure Operations: insertion, deletion, traversal etc.	Board	T1	
3	3	classification of data structure	Board	T1	
4	4	applications of data structure- arrays, stacks, queues	Board	T1	
5	5	applications of data structure- linked list, trees, graphs	Board	T1	
6	6	insertion & traversal algo in an array	Board	T1	
7	7	Deletion in an array & linear search	Board	T1	
8	8	Binary search & analysis	Board	T1, T2	
9	9	bubble sort & selection sort	Board	T1	
10	10	Algo intro, rules for writing algo & types of analysis	Board	T1	
11	11	Revision			
12	12	ADT Stack and its operations: Algorithms and their complexity Applications of Stacks:	Board	T1	
13	13	Expression Conversion :Infix to postfix conversion & infix to prefix	Board	T1	
14	14	Expression Evaluation – corresponding algorithms and complexity analysis	Board	T1	
15	15	ADT queue, Types of Queue: Simple Queue and its operations	Board	T1	
16	16	Circular Queue	Board	T1	
17	17	Dequeues	Board	T1	
18	18	Priority Queue with their operations.	Board	T1	
19	19	Revision			
20	20	Linked representation of stack	Board	T1	
21	21	Linked representation of Queues	Board	T1	
22	22	Singly linked lists: Representation in memory, Algorithms of Traversing	Board	T1	
23	23	algo for counting & searching	Board	T1	
24	24	Insertion into linked list (beg,end ,spec. position)	Board	T1, T2	
25	25	Deletion from LL(from beg,end ,specific pos)	Board	T1	
26	26	Header nodes, Doubly linked list and its traversa	Board	T1	
27	27	Insertion operations on doubly linked list and algorithmic analysis	Board	T1	
28	28	deletion operations on doubly linked list and algorithmic analysis	Board	T1	
29	29	Circular Linked Lists: all operations their algorithms and the complexity analysis-insertion	Board	T1	
30	30	Circular Linked Lists: all operations their algorithms and the complexity analysis-deletion	Board	T1	
31	31	Revision			
32	32	Heap Sort working & algo	Board	T3	
33	33	Heap Sort; Performance and Comparison among all the methods.	Board	T3	
34	34	Quick Sort; Performance and Comparison among all the methods.	Board	T1, T2	
35	35	Insertion Sort; Performance and Comparison among all the methods.	Board	T1	
36	36	Intro to graph & its types	Board	T1	
37	37	graph representations- matrix,list & set	Board	T1	
38	38	Graph search & traversal algo-BFS & DFS	Board	T1	
39	39	Hashing	Board	T1	
40	40	Trees: Basic Tree Terminologies, Different types of Trees: Binary Tree	Board	T1	
41	41	Binary tree traversal,	Board	T1	
42	42	Introduction to binary search tree & Binary Search Tree(insertion)	Board	T1, T2	
43	43	Binary Search Tree(deletion three cases)	Board	T1, T2	
44	44	AVL Tree intro & insertion	Board	T1	
45	45	AVL Tree & its operations	Board	T1	
46	46	B Tree-Definition- operations	Board	T1	
47	47	B Tree-Definition, algorithm and analysis	Board	T1	
48	48	Threaded Binary Tree & its operations	Board	T1	
49	49	Revision			

Study Material / Books / Web-resources / Online Courses Links etc.	
S. No.	Description
1	Data Structure by Schaum's Outlines
2	Ellis Horowitz & Sartaj Sahni, "Fundamentals of Data structures" Pub, 198
3	Data Structure Using C Book by A.k Sharma