	PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY			
	DEPARTMENT OF CSE (AI-ML)			
Subject Name: - Data Structures,			**Subject Code:-ES-CS-AIML-203A(3rd)**	
	Lesson Plan			
Lecture No.	**Topics to be covered**	**CO Covered**	**Assignment**	**Teaching Methodology**
L-1	Introduction to Data Types, Data Structures ,Operations on Data Structures	CO1	Assignment 1	White Board
L-2	Arrays, LB, UB, Finding address element in one dimensional array and 2 D array	CO1	Assignment 1	Smart Board
L-3	Insertion and deletion and traversing operation on linear array.	CO1	Assignment 1	Smart Board
L-4	Three dimensional array, Finding element address RMO, CMO	CO2	Assignment 1	White Board
L-5	Sparse matrix, Representation of sparse matrix, Transpose of sparse matrix.	CO2	Assignment 1	White Board
L-6	Sparse Matrices, Storage Class	CO2	Assignment 1	White Board
L-7	Memory allocation in C, Static and dynamic memory allocation	CO2	Assignment 1	White Board

L-8	Bubble sort, selection sort, Insertion sort	CO2	Assignment 1	Smart Board
L-9	Stack, LIFO, Push operation and pop operation	CO2	Assignment 2	White Board
L-10	Conversion from infix to postfix expression	CO2	Assignment 2	White Board
L-11	Conversion from infix to prefix expression, prefix to postfix	CO2	Assignment 2	White Board
L-12	Conversion from postfix to prefix expression, prefix to infix, Evauation of postfix and prefix expression	CO2	Assignment 2	White Board
L-13	Analysis of algorithm, Big oh ,theta, omega notation	CO2	Assignment 2	White Board
L-14	Implementation of quick sort	CO2	Assignment 2	White Board
L-15	Linear queue, circular queue, insertion and deletion	CO3	Assignment 2	White Board
L-16	DEQUE Insertion , deletion	CO2	Assignment 2	White Board
L-17	Priority Queues and Its Implementation	CO2	Assignment 2	White Board
L-18	Applications of queues	CO3	Assignment 2	Smart Board
L-19	Creation of linked list, implementation	CO3	Assignment 2	White Board

L-20	Traversing of linked list, Insertion as first node in linked list.	CO3	Assignment 2	White Board
L-21	Insertion as last node , at a specific position using node number and node info.	CO3	Assignment 2	White Board
L-22	Deletion as first node , Deletion as last node , deletion at specific position.	CO3	Assignment 3	White Board
L-23	Doubly linked list creation, insertion as first node and insertion as last node	CO3	Assignment 3	White Board
L-24	Insertion at specific position, deletion as first node, deletion as last node.deletion at specific location.	CO3	Assignment 3	White Board
L-25	Circular linked list creation, traversing, insertion and deletion	CO3	Assignment 3	Smart Board
L-26	Implementation of linked stack and linked queue.	CO4	Assignment 3	Smart Board
L-27	Basic tree Terminology, representation of Binary Tree, Tree traversal basic.	CO4	Assignment 3	Smart Board

L-28	Preorder, inorder traversal, post order traversal.	CO4	Assignment 3	White Board
L-29	Creation of tree from traversals.	CO4	Assignment 3	White Board
L-30	Representation of infix and prefix and postfix expression using tree	CO4	Assignment 3	Smart Board
L-31	AVL TREE, Insertion and deletion in AVL tree.	CO4	Assignment 4	Smart Board
L-32	Heap Sort implementation	CO4	Assignment 4	Smart Board
L-33	Introduction to B-Tree , B+ tree, insertion and deletion	CO4	Assignment 4	White Board
L-34	Threaded Binary trees, Multi-way search trees,	CO4	Assignment 4	White Board
L-35	Graph terminology, memory representation of graph,	CO4	Assignment 4	Smart Board
L-36	Graph traversal BFS and DFS	CO4	Assignment 4	Smart Board
L-37	MST, Prims and Kruskal Algorithm	CO4	Assignment 4	Smart Board
L-38	Dijkstra's algorithm for finding shortest path in graph	CO4	Assignment 4	White Board
L-39	Floyd warshall Algorithm	CO4	Assignment 4	White Board
L-40	Implementation of Merge sort	CO4	Assignment 4	Smart Board