Name of Faculty:Jyoti			Discipline:Computer Engineering	
Semester:4th			Subject:Data Structures using C	
LESSON PLAN DURATION : - 15 weeks (from Jan- 2019 to May- 2019)			WORK LOAD (LECTURE/PRACTICAL) PER WEEK (IN HOURS):- LECTURE-03, PRACTIACL-06	
weeks	Theory		Practical	
	Lectures/hrs	Topics(including assisgnments & test)	Practical/hrs	Experiments
1	1	Fundamental Notations: Problem solving concept	1	Sorting an Array
			2	
			3	
	2	Top down and bottom up design, structured programming		
	3	Concept of data types, variables and constants	1	The addition of two matrices using functions
			2	
			3	
2	4	Concept of pointer variables and constants	1	
			2	The multiplication of two matrices
			3	
	5	Arrays:Concept of Arrays,Storage representation of multi-dimensional arrays.		
	6	Operations on arrays with Algorithms (searching, traversing)	1	Revision of Programme Performed
			2	
			3	
3	7	Operations on arrays with Algorithms (inserting, deleting)	1	Push and pop operation in stack
			2	
			3	
	8	Linked Lists:Introduction to linked list , Representation of linked lists in Memory		
	9	Operations on linked list (Insertion)	1	Revision of Programme Performed
			2	
			3	
4	10	Operations on linked list (deletion)	1	Inserting elements in queue
			2	
			3	
	11	Operations on linked list (traversal)		
	12	Application of linked List	1	Deleting elements in queue
			2	
			3	
5	13	Doubly Linked lList	1	Insertion in circular queue
			2	
			3	
	14	Assignment 1		
	15	Operation on Doubly Linked List: insertion	1	deletion in circular queue
			2	
			3	
6	16	Operation on Doubly Linked List: Deletion	1	Revision of Programme Performed
			2	
			3	
	17	Operation on Doubly Linked List: Traversal		
	18	sessional Test 1	1	Insertion in linked list
			2	
			3	
7	19	Stacks, Queues and Recursion:introduction to stack	1	deletion in linked list
			2	
			3	
	20	Representation of stack		
	21	Implementation of stack	1	Insertion in doubly linked list
			2	
			3	
	22	Appplication of stacks	1	deletion in doubly linked list
			2	

			3	
8	23	Introduction to Queues		
	24	Implentation of Queues	1	Revision of Programme Performed
			2	
			3	
9	25	Circular Queue & dequeue	1	The Factorial of a given number with recursion and without recursion
			2	
			3	
	26	Application of queues		
	27	Recursion	1	Fibonacii series with recursion and without recursion
			2	
			3	
10	28	Assignment 2	1	Program for binary search tree operation
			2	
			3	
	29	Sessional Test 2		
	30	Tree:Concept of Trees & binary Tree	1	Revision of Programme Performed
			2	
			3	
11	31	Representation of binary tree in memory	1	The selection sort technique
			2	
			3	
	32	Traversing binary trees:Pre order		
	33	Traversing binary trees:Post order	1	The Bubble sort technique
			2	
			3	
12	34	Traversing binary trees:In order	1	The quick sort technique
			2	
			3	
	35	Operation on BST:Searching,Insertion		
	36	Operation on BST:Deletion	1	The Merge sort technique
			2	
			3	
13	37	Introduction to Heap	1	Revision of Programme Performed
			2	
			3	
	38	Introduction to sorting & Searching		
	39	Search Algorithm:Linear & Binary Searching	1	Revision of Programme Performed
			2	
			3	
14	40	Sorting Algorithm:Bubble Sort,Insertion sort	1	The binary search procedures to search an element in a given list
			2	
			3	
	41	Sorting Algorithm:Quick Sort,Selection sort		
	42	Sorting Algorithm:Merge Sort	1	Revision of Programme Performed
			2	
			3	
15	43	Sorting Algorithm:Heap Sort	1	The Linear search procedures to search an element in a given list
			2	
			3	
	44	Assignment 3		
	45	Sessional Test 3	1	Revision of Programme Performed
			2	
			3	