LESSON PLAN: January to April 2019

NAME OF FACULTY: MS.POOJA
DEPARTMENT: COMPUTER ENGINEERING
DESIGNATION: PROGRAMMER
SUB: DATA STRUCTURES USING C
TEACHING LOAD:3(L)-6(P)
SEMESTER:4TH

Weeks	Theory Week Days	TOPICS COVERED	PRACTICAL Week Days	PRACTICALS
1	1	Introduction to subject	1	Sample C program
	2	Problem solving concept,top down and bottom up approach, structured programming	2	Revision of C concepts
	3	Concept of data types,variables and constants,concept of pointer variables &const		
2	1	Introduction to data structure, types of data Structure.	1	Addition of two matrices using functions
	2	Concept of Arrays	2	Operations on matrices
	3	Single dimensional array		
3	1	Two dimensional arrays	1	One dimensional array
	2	Representation of two dimensional array in memory(Base address,LB,UB)	2	Two dimensional array
	3	Various operations on arrays, inserting in arrays		
4	1	searching,traversing operations on arrays	1	Inserting elements in array
	2	deletion in arrays, Array recap	2	Deleting elements in array
	3	Revision, **Assignment-I**		
5	1	**Sessional Test -I**	1	Single linked list
	2	Introduction to linked list and doubly linked list Representation of linked list in memory	2	Doubly linked list
	3	Comparison between linked list and array Traversing and searching a linked list		
6	1	Insertion into linked list at various positions	1	Insertion of elements in linked list
	2	Deletion from linked lists from various positions	2	Deletion of elements in linked list
	3	Application of linked lists		
7	1	Doubly linked lists,traversing a doubly linked list	1	Insertion of elements in doubly linked list
	2	Insertion and deletion into doubly linked list-		
	3	Introduction to stacks, Representation of stacks with array and linked lists	2	Deletion of elements in doubly link list
8	1	Implementation of stacks, Application of stacks-Polish notations		
	2	Recap Stacks, **Assignment-II**	1	Push and pop operation in stack
	3	Converting infix to postfix notation	2	Conversion from in-fix notation
9	1	Evaluation of postfix notation		
	2	towers of Hanoi,Recursion,comparison between recursion and iteration	1	The factorial of a given number using recursion
	3	**Sessional Test-II**	2	Insertion of elements in queue using pointers

10	1	Introduction to queues, Implementation of queues(arrays with algo)	1	Deletion of elements in queue using pointers
	2	Implementation of queues(using linked lists with algorithm)		
	3	Circular queues and de queues	2	Deletion of elements in circular queue using pointers
11	1	Concept of trees-introduction		
	2	Concept of binary trees(complete & extended)		
	3	Representation of binary tree		
12	1	Balanced binary tree	1	Insertion of elements in circular queue using pointers Priority queue
	2	Traversing a binary tree	2	
	3	Pre order,post order and in order traversal		
13	1	Searching in binary trees	1	Operations on binary search trees
	2	Inserting in binary search trees, Deleting from binary search trees	2	Operations on binary search trees
	3	Sorting and searching, Linear and binary search algorithm		
14	1	Concept of sorting,	1	Linear search procedures to search an element in given list
	2	Sorting algorithms-bubble sort, insertion sort, heap sort	2	Binary search procedures to search an element in given list
	3	Recap Sorting, **Assignment-III**		
15	1	Seminar on Queues, Tree, Sorting	1	The bubble sort technique
	2	Discussion on doubts	2	The selection sort technique
	3	**Sessional Test-III**	3	