

Academic Lesson Plan of Winter 2024

Department: CSE	Semester:3rd	Name of the Teaching Faculty: SWARNALATA SAHOO
Subject: DATA STRUCTURE	No. of days/per week class allotted 4p/week	Semester from:01/07/2024
		No. of weeks:15
		Topics to be covered:
WEEK	DAY	TOPIC
1st week	1st	Explain data, information and datatypes.
	2nd	Define data structure.
	3rd	Explain different operations of DS.
	4th	Explain ADT.
2nd week	1st	Discuss algorithm and its complexity.
	2nd	Explain time, space tradeoff.
	3rd	Explain basic terminology of String.
	4th	Storing Strings.
3rd week	1st	State Character datatype.
	2nd	Discuss string operations.
	3rd	Introduction about array.
	4th	Discuss linear arrays,representation of linear array in memory.
4th week	1st	Explain Traversing linear array.
	2nd	Insert and delete of an array .
	3rd	multidimensional array.
	4th	Representation of 2D array in memory.
5th week	1st	pointers.
	2nd	Explain Sparse matrix.
	3rd	Fundamental idea about Stack & Queues.
	4th	
6th week	1st	Explain array representation of Stack.
	2nd	Explain arithmetic and Expression.
	3rd	Polish notation and conversion.(Infix to postfix and Postfix to infix)
	4th	
7th week	1st	Discuss application of Stack, Recursion.
	2nd	Discuss Queue, circular Queue and Priority Queue.
	3rd	Introduction about Linked list.
	4th	
8th week	1st	Explain Representation of linked list in memory.
	2nd	Discuss traversing a linked list.
	3rd	Searching(Unsorted and Sorted linked list)
	4th	
9th WEEK	1st	Discuss Garbage collection.
	2nd	Explain insertion into a linked list.
	3rd	Explain deletion from a linked list.
	4th	
10th week	1st	Explain basic terminology of Tree.
	2nd	Discuss binary tree.
	3rd	Representation of binary tree traversal.
	4th	
11th week	1st	Binary search tree.
	2nd	Searching.
	3rd	Explain insertion in a binary search tree.
	4th	Explain deletion in a binary search tree.

12th week	1st	Explain graph terminology and its representation.
	2nd	
	3rd	Adjacency matrix.
	4th	
13th week	1st	Path matrix.
	2nd	
	3rd	Discuss algorithms for bubble sort.
	4th	
14th week	1st	Discuss algorithms for Quick sort.
	2nd	
	3rd	Merging, Linear searching, Binary searching.
	4th	
15th week	1st	Discuss different types of file organization and their access method.
	2nd	Introduction to Hashing, Hash function.
	3rd	Collision resolution, open addressing .
	4th	Rivision.

S. Sahoo
16/08/24

Signature of
Faculty

S. Sahoo
16/08/24

HOD

Sr. Lecture, CSE