LESSON PLAN

SUB: DATA STRUCTURE, THEORY-2
BRANCH:- COMPUTER SCIENCE & ENGINEERING
SEMESTER:3RD

NAME OF FACULTY: PRAFULLA KUMAR MUNDA(LECT.IN CSE)

GOVERNMENT POLYTECHNIC, BHADRAK

SESSION:-2024-25

HOD ,CSE

Academic Co-ordinator

Principal
Govt. Polytechnic, Bhadrak

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Discipline: Computer Science and Engineering	**Semester: 3rd, Winter/2024**	**Name of the Faculty:** Prafulla Kumar Munda,Lecturer **Email ID:**prafulla.guia@gmail.com
Subject: Data Structure, Theory-2	**No. of Days/week:** 04	**Start Date:** 1/07/2024 **End Date:** 8/11/2024

Week	Class Day	Theory Topics
1st	1st	Explain Data, Information, data types
	2nd	Define data structure & Explain different operations
	3rd	Explain Abstract data types
	4th	Discuss Algorithm & its complexity, Explain Time, space tradeoff
2nd	1st	Revision
	2nd	Explain Basic Terminology, Storing Strings, State Character Data Type
	3rd	Discuss String Operations
	4th	Question Answer discussion
3rd	1st	Introduction about array, Discussion about Linear arrays
	2nd	Representation of linear array in memory
	3dr	Explain traversing linear arrays
	4th	Inserting & deleting elements in an Array
4th	1st	Multidimensional arrays, Representation of two dimensional arrays in memory (row major &column majororder)
	2nd	Pointers, Sparse matrices

	3dr	Revision
	4th	Quiz Test
5th	1st	Fundamental idea about Stacks and queues
	2nd	Explain array Representation of Stack
	3rd	Explain arithmetic expression, polish notation& Conversion
	4th	Explain arithmetic expression, polish notation& Conversion contd....
6th	1st	Discuss application of stack, Recursion
	2nd	Discuss queues and its operation
	3rd	Circular queue
	4th	Priority queues
7th	1st	Question Answer discussion
	2nd	Introduction about linked list
	3rd	Explain representation of linked list in memory
	4th	Traversing a linked list, Searching an element from a linked list
8th	1st	Explain Insertion into a linked list
	2nd	Explain Deletion from a linked list
	3rd	Discuss garbage collection
	4th	Header linked list
9th	1st	Revision
	2nd	Explain Basic terminology of Tree
	3rd	Discuss about Binary tree & its representation
	4th	Traversal of binary tree
10th	1st	Binary search tree
	2nd	Searching in BST
	3rd	Explain insertion in a BST
	4th	Deletion in a binary search trees

11th	1st	Question Answer discussion
	2nd	Explain graph terminology
	3rd	Graph & its representation
	4th	Graph & its representation contd..
12th	1st	Explain Adjacency Matrix
	2nd	Path Matrix
	3rd	Revision
	4th	Introduction about sorting, Searching, Merging
13th	1st	Algorithms for Bubble sort
	2nd	Algorithms for Quick sort with example
	3rd	Merging
	4th	Algorithms for Linear searching with example
14th	1st	Algorithms for Binary searching with example
	2nd	Quiz Test
	3rd	Define File, Types of files organization
	4th	File access method
15th	1st	Introduction to Hashing, Hash function
	2nd	collision resolution, open addressing.
	3rd	Discussion of previous year questions
	4th	Discussion of previous year questions

Prafulla Kumar Munda