PNS SCHOOL OF ENGG. & TECH., MARSHAGHAI
DEPARTMENT OF COMPUTER SCIENCE ENGINEERING LESSON PLAN

BRANCH : CSE	SEMESTER : 3RD	NAME OF THE TEACHING FACULTY : **MR. BISWARANJAN SWAIN**
SUBJECT : DATA STRUCTURE	NO. OF DAYS PER WEEK CLASS ALLOTTED : 05	SEMESTER FROM DATE: 01.08.2023 TO 30.11.2023

WEEK	CLASSDAY	THEORY TOPICS
1ST	1st	**1.INTRODUCTION** Explain Data, Information, data types
	2nd	Define data structure & Explain different operations, Abstract Data types
	3rd	Algorithm and its complexity
	4th	Time and space trade off
	5th	**2. STRING PROCESSING** Basics of string and storing strings, character data types
2ND	1st	String operations
	2nd	**3. ARRAYS** Introduction about array, linear array
	3rd	Array representation in memory, traversing array
	4th	Insertion and deletion elements, multidimensional array
	5th	Two dimensional array in memory(row major and column major order)
3RD	1st	Sparse matrix and TEST
	2nd	Pointer
	3rd	**4. STACKS & QUEUES** Fundamental idea about stacks , Push and Pop operation
	4th	Polish notation
	5th	Conversion between postfix, prefix and infix
4TH	1st	Application of stack, Arithmatic expression
	2nd	Application of Stack, Recursion
	3rd	Queue, circular queue
	4th	Priority queue
	5th	**5. LINKED LIST** Introduction about linked list
5TH	1st	Representation of linked list in memory
	2nd	Traversing a linked list
	3rd	Searching a linked list
	4th	Insertion into a linked list
	5th	Deletion from a linked list
	1st	Header linked list
	2nd	Garbage collection
	3rd	Doubt clear

6TH	4th	**6. TREE** Basic terminology of Tree
	5th	Types of trees
7TH	1st	Binary tree
	2nd	In order traversal in a binary tree
	3rd	Pre order and post order traversal in a binary tree
	4th	Binary Search tree, searching
	5th	Insertion in BST
8TH	1st	Deletion in BST
	2nd	Test
	3rd	**7. GRAPHS** Graph terminology
	4th	Graph terminology
	5th	Graph representation, types of graph
9TH	1st	Adjacency matrix
	2nd	Path matrix
	3rd	Doubt clear
	4th	**8. SORTING, SEARCHING & MERGING** Basics of searching, sorting, merging
	5th	Bubble sort
10TH	1st	Quick sort
	2nd	Repeat of sorting
	3rd	Merging
	4th	Linear searching
	5th	Binary searching
11TH	1st	Doubt of searching methods
	2nd	**9.FILE ORGANIZATION** File organisation and its types, Sequential file organisation
	3rd	Relative file organisaton, File access method
	4th	Indexed Sequential file organisation
	5th	Introduction to hashing
12TH	1st	Hash function
	2nd	Collision resolution
	3rd	Open addressing
	4th	Quadratic probing double hashing
	5th	Doubt clear

Biswaranjan Swain

SIGNATURE OF H.O.D

Biswaranjan Swain

SIGNATURE OF LECTURER