

# PNS SCHOOL OF ENGG. & TECH., MARSHAGHAI

## DEPARTMENT OF COMPUTER SCIENCE ENGINEERING LESSON PLAN

<b>BRANCH :</b> CSE	<b>SEMESTER :</b> 3RD	<b>NAME OF THE TEACHING FACULTY :</b> <b>MRS. JAYASHREE BISHOI</b>
<b>SUBJECT:</b> Data Structure Lab	<b>NO. OF DAYS PER WEEK CLASS ALLOTTED :</b> 02	<b>SEMESTER FROM DATE: 07.07.2025 TO 15.11.2025</b>
<b>WEEK</b>	<b>CLASS DAY</b>	<b>LAB EXPERIMENTS</b>
1 <sup>ST</sup>	1 <sup>st</sup>	Introduction to Data Structures Lab
	2 <sup>nd</sup>	Write a program to analyze and compare the time complexity of basic operations (e.g., searching, insertion) on arrays and linked lists
2 <sup>ND</sup>	1 <sup>st</sup>	Write a program to analyze and compare the time complexity of basic operations (e.g., searching, insertion) on arrays and linked lists
	2 <sup>nd</sup>	
3 <sup>RD</sup>	1 <sup>st</sup>	Introduction to Linear Data Structures
	2 <sup>nd</sup>	Implement stack operations (push, pop, peek) using arrays and linked lists
4 <sup>TH</sup>	1 <sup>st</sup>	Develop programs for applications of stacks (e.g., infix-to-postfix conversion and postfix evaluation)
	2 <sup>nd</sup>	Implement queue operations (enqueue, dequeue) using arrays and linked lists
5 <sup>TH</sup>	1 <sup>st</sup>	Write programs for types of queues: circular queues and dequeue
	2 <sup>nd</sup>	Implement singly linked list operations (insertion, deletion, traversal).
6 <sup>TH</sup>	1 <sup>st</sup>	Write programs to create and manipulate circular and doubly linked lists
	2 <sup>nd</sup>	Implement stack and queue operations using linked lists.
7 <sup>TH</sup>	1 <sup>st</sup>	Introduction to Non-Linear Data Structures
	2 <sup>nd</sup>	Implement binary tree operations (insertion, deletion, traversal)
8 <sup>TH</sup>	1 <sup>st</sup>	Develop programs for types of binary trees (binary search tree, AVL tree)
	2 <sup>nd</sup>	
	1 <sup>st</sup>	Introduction to Sorting

9 <sup>TH</sup>	2 <sup>nd</sup>	Implement sorting algorithms: bubble sort, selection sort, insert
10 <sup>TH</sup>	1 <sup>st</sup>	Implement sorting algorithms: insertion sort, merge sort, quicksort
	2 <sup>nd</sup>	
11 <sup>TH</sup>	1 <sup>st</sup>	Introduction to searching
	2 <sup>nd</sup>	Write programs for searching using binary search trees (BST) and hash tables
12 <sup>TH</sup>	1 <sup>st</sup>	Write programs for searching using hash tables
	2 <sup>nd</sup>	Implement symbol table operations using balanced search trees
13 <sup>th</sup>	1 <sup>st</sup>	Introduction to Graph
	2 <sup>nd</sup>	Implement graph representations (adjacency list, adjacency matrix)
14 <sup>th</sup>	1 <sup>st</sup>	Implement graph representations basic graph traversals (BFS)
	2 <sup>nd</sup>	Implement graph representations basic graph traversals (DFS)
15 <sup>th</sup>	1 <sup>st</sup>	Revision
	2 <sup>nd</sup>	

*Biswanayan Swain*

SIGNATURE OF H.O.D

*Jayashree Bisshoi*

SIGNATURE OF LECTURER