PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH

LESSON PLAN

Session-2022-2023

DS

Discipline: Computer Sc & Engg. Engg. Semester: 3rd Sem

Name of the Teaching Faculty: Ashis Behera

Subject: Data Structure No. of Days/per week class allotted 04

Semester From Date : 15/9/22 To Date : 22/12/22 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
Week 1	Day 1	Introduction to Data structure.
	Day 2	Linear Data Structure Vs non-Linear Data Structure.
	Day 3	Algorithm with Examples.
	Day 4	Time complexity and space complexity.
Week 2	Day 1	String and stronge of strings
	Day 2	String Data types Vs Character Data types With examples.
	Day 3	String operations: Streat, Strlen, Strcmp.
	Day 4	Introduction to Array and it's types.
Week 3	Day 1	Linear Array with memory Representation.
	Day 2	Traversal of Array and instert element in Array.
	Day 3	Deleting elements and mearging elements in Array.
	Day 4	Pointer Vs Array with examples.

Signature of the Faculty

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Week	Class Day	Theory /Practical Topics
week 4	Day 1	Row Major and coloum Major in Array with Example.
	Day 2	Explanation of sprse Matrix.
	Day 3	Introduction to stack and Queue.
	Day 4	Array Representation of stack
week 5	Day 1	Polish notation and Reverse Polish notation.
	Day 2	Conversion of Infix to postfix and infix to prefix notation.
	Day 3	Application of stack using Polish notation.
	Day 4	Algorithm for infix to prefix and infix to postfix notation
week 6	Day 1	Linear Queue and Algorithm.
	Day 2	Circular Queue and priority Queue.
	Day 3	Introduction to Link list.
	Day 4	Representation of Link list in Memory.

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Week	Class Day	Theory /Practical Topics
Week 7	Day 1	Traversal and searching of Link list.
	Day 2	Garbage collection with Example.
	Day 3	Inserting elements into the link list with Examples
	Day 4	Algorithm for inserting elements in link list.
Week 8	Day 1	Algorithm for inserting elements in end of link list.
	Day 2	Introduction to tree.
	Day 3	Introduction to tree & Algorithm for Deletion.
	Day 4	Tree terminology with Example.
Week 9	Day 1	Tree types with Example.
	Day 2	Tree traversal.
	Day 3	Inorder, preorder, and post order Tree traversal.
	Day 4	Binary search tree.

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Week	Class Day	Theory /Practical Topics
week 10	Day 1	Insertion in BST
	Day 2	Deletation in BST
	Day 3	Introduction to Graph
	Day 4	Types of Graph
week 11	Day 1	Breadth First search (BFS)
	Day 2	Depth First search (DFS)
	Day 3	Adjacency Matrix
	Day 4	Path Matrix
week 12	Day 1	Algorithm for selection Sort
	Day 2	Algorithm for Bubble sort.
	Day 3	Program for Bubble sort.
	Day 4	Quick sort.

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Week	Class Day	Theory /Practical Topics
Week 13	Day 1	Algorithm for Quick sort.
	Day 2	Program for Quick sort and Merging.
	Day 3	Linear search Algorithm
	Day 4	Binary search Algorithm.
Week 14	Day 1	Introduction to File Organization.
	Day 2	Different types of file organization.
	Day 3	different types of Access Methods.
	Day 4	Hashing and Hash function.
Week 15	Day 1	Mid Square Method and Folding Method.
	Day 2	Collision Resolution technique.
	Day 3	Open hashing Vs close hashing
	Day 4	Open Addressing

Signature of the Faculty