LESSON PLAN

Department: CSE		Semester: 3rd , Name of Faculty :
Subject: TH-2 Data Structure (DS)	No. of days/ week Class allotted: 4	Effective From Date:
		No. of Week- 15
		Topic to be Covered:
Week	**Class Day**	**Theory**
1st	1st	**UNIT 1: INTRODUCTION**
	2nd	**1.1** Explain Data, Information, Data Types
	3rd	**1.2** Define data structure & Explain different operations
	4th	**1.3** Explain Abstract data types
2nd	1st	**1.4** Discuss Algorithm & its complexity
	2nd	**1.5** Explain Time, space tradeoff
	3rd	**1. Doubt Clearing class** **2. Quiz test** **3. Assignment**
	4th	**UNIT 2: STRING PROCESSING**
3rd	1st	**2.1** Explain Basic Terminology, Storing Strings
	2nd	**2.2** State Character Data Type
	3rd	**2.3** Discuss String Operations
	4th	**1. Doubt Clearing class** **2. Quiz test** **3. Assignment**
4th	1st	**UNIT 3: ARRAYS**
	2nd	**3.1** Give Introduction about array
	3rd	**3.2** Discuss Linear arrays, representation of linear array In memory
	4th	**3.3** Explain traversing linear arrays, inserting & deleting elements
5th	1st	**3.4** Discuss multidimensional arrays, representation of two dimensional arrays in memory
	2nd	**3.4** (row major order & column major order), and pointers
	3rd	**3.5** Explain sparse matrices
	4th	**1. Doubt Clearing class** **2. Quiz test** **3. Assignment**
6th	1st	**UNIT 4: STACKS & QUEUES**
	2nd	**4.1** Give fundamental idea about Stacks and queues
	3rd	**4.2** Explain array representation of Stack
	4th	**4.3** Explain arithmetic expression ,polish notation & Conversion
7th	1st	**4.4** Discuss application of stack, recursion
	2nd	**4.5** Discuss queues, circular queue, priority queues.
	3rd	**1. Doubt Clearing class** **2. Quiz test** **3. Assignment**
	4th	**UNIT 5: LINKED LIST**
8th	1st	**5.1** Give Introduction about linked list
	2nd	**5.2** Explain representation of linked list in memory

	3rd	**5.3** Discuss traversing a linked list, searching,
	4th	**5.4** Discuss garbage collection.
9th	**1st**	**5.5** Explain Insertion into a linked list,
	2nd	**5.5** Deletion from a linked list, header linked list
	3rd	**1. Doubt Clearing class** **2. Quiz test** **3. Assignment**
	4th	**UNIT 6: TREE**
10th	**1st**	**6.1** Explain Basic terminology of Tree
	2nd	**6.2** Discuss Binary tree, its representation and traversal,
	3rd	**6.2** Binary search tree, searching,
	4th	**6.3** Explain insertion & deletion in a binary search trees
11th	**1st**	**1. Doubt Clearing class** **2. Quiz test** **3. Assignment**
	2nd	**UNIT 7: GRAPHS**
	3rd	**7.1** Explain graph terminology & its representation
	4th	**7.2** Explain Adjacency Matrix, Path Matrix
12th	**1st**	**1. Doubt Clearing class** **2. Quiz test** **3. Assignment**
	2nd	**UNIT 8: SORTING SEARCHING & MERGING**
	3rd	**8.1** Discuss Algorithms for Bubble sort, Quick sort,
	4th	**8.2** Merging
13th	**1st**	**8.3** Linear searching, Binary searching.
	2nd	**1. Doubt Clearing class** **2. Quiz test** **3. Assignment**
	3rd	**UNIT 9: FILE ORGANIZATION**
	4th	**9.1** Discuss Different types of files organization and their access method
14th	**1st**	**9.2** Introduction to Hashing, Hash function,
	2nd	**9.2** Collision resolution, open addressing
	3rd	**1. Doubt Clearing class** **2. Quiz test** **3. Assignment**

Sign. Of Lecturer

Asian School of Technology
Khordha