JHARKHAND Rai University
UGC RECOGNISED UNIVERSITY
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Lesson Plan & Tracking

Programe : B.TECH (CSE)	Session :2021-2025	Year : Second	Sem:Three
Course: Data Structure & Algorithms(Theory)			
Name of the Faculty: SHASHANK SAWAN	Commencement Date:29/08/2022		Date of Closure:30/12/2022

Lecture No.	Week	Unit	Topics to be Covered	Blended Mode			Date	Duration	Tracking of Lectures	Related Course Outcome	Signature of Faculty	Signature of HoD	Remarks (if any)
				ICT Tool/Platform/ LMS	Resources	Activity							
1	1	1	Introduction: Basic Terminologies: Elementary Data Organizations										
2		1	Data Structure Operations: insertion, deletion, traversal etc.										
3		1	Analysis of an Algorithm, Asymptotic Notations, Time-Space trade off.										
4	2	1	Searching: Linear Search and Binary Search Techniques and their complexity analysis										
5		2	Stacks and Queues: ADT Stack										
6		2	operations: Algorithms and their complexity analysis.										

7	3	2	Applications of Stacks: Expression Conversion and evaluation – corresponding algorithms and complexity analysis										
8		2	ADT queue										
9		2	Types of Queue: Simple Queue										
10	4	2	Circular Queue										
11		2	Priority Queue										
12		2	Operations on each types of Queues:Algorithms and their analysis										
13	5	3	Linked Lists: Singly linked lists,Representation in memory										
14		3	Algorithms of several operations: Traversing, Searching, Insertion into, Deletion from linked list										
15		3	Linked representation of Stack and Queue, Header nodes										
16	6	3	Doubly linked list: operations on it and algorithmic analysis										
17		3	Circular Linked Lists: all operations their algorithms and the complexity analysis.										

18		3	Trees: Basic Tree Terminologies, Different types of Trees: Binary Tree										
19	7	3	Threaded Binary Tree, Binary Search Tree, AVL Tree										
20		3	Tree operations on each of the trees and their algorithms with complexity analysis.										
21		3	Applications of Binary Trees. B Tree, B+ Tree: definitions, algorithms and analysis										
22	8	4	Sorting and Hashing: Objective										
23		4	properties of different sorting algorithms: Selection Sort										
24		4	Bubble Sort, Insertion Sort, Quick Sort										
25	9	4	Merge Sort, Heap Sort										
26		4	Performance and Comparison among all the methods										
27		4	Hashing										
28		4	Graph: Basic Terminologies and Representations										

29	10	4	Graph search and traversal algorithms										
30		4	complexity analysis										
			Revision										
			Revision										