Government Polytechnic Sundernagar
Lesson Plan for Session Jan.2025-May2025

Subject: DSUC   **Class: 4th Sem Computer Engg.**   **Subject Teacher: Kumari Neena**

Sr. No.	Month	Week	Date	Name of Unit	Contents to be Taught
1	January	5	27th,29th,30th,31st	Unit 1: Introduction	Algorithms-Definition, Characteristics, Efficiency, Notations - Asymptotic, Big-Oh, Omega, Theta notation;Data Types, Data Structures - Characteristics, Types - Linear, Non-linear, General Operations, Efficiency;
2	February	1	3rd,5th,6th,7th		
3		2	10th,13th,14th	Unit 2: Arrays, Structures and Pointers	Arrays, One-Dimensional and Multi-Dimensional Arrays, One-Dimensional Arrays-Memory Representation,Traversal, Insertion and Deletion, Sorting and Searching; Two-Dimensional Arrays–Memory Representation,Implement Matrices using Two-Dimensional Arrays, Matrix Operations-Addition, Subtraction,Multiplication, Transpose; Structure-Accessing structure members using (.) and (->) operators, self-referencing structures, Pointers-Dynamic Memory Allocation using malloc(), calloc(),free() and realloc(),Manipulate Arrays using Pointers.
4		3	17th,19th,20th,21th		
5		4	24th,27th,28th		
6	March	1	3rd,5th,6th,7th		
7		2	1oth,12th,13th	Unit 3: : Sorting and Searching	Searching Techniques - Linear Search, Binary Search; Sorting Techniques – Selection Sort, Insertion Sort,Bubble Sort, Quick Sort, Merge Sort; Efficiencies of Sorting Algorithms.
8		3	17th,19th,20th,21th (Class Test-1)		
9		4	24th,26th,27th,28th		
10	April	1	2nd,3rd,4th	Unit 4: Linear Data Structures	Linked Lists - Representation, Advantages, Disadvantages, Implementation, Operations; Doubly Linked List,Stacks, Stack Operations - Push, Pop; Implementation of Stack using Arrays and Linked List; Queues, QueueOperations, Implementation of Queue using Arrays and Linked List.
11		2	7th,9th,10th,11th		
12		3	16th,17th (class Test-2)		
13		4	21st,23rd,24th,25th		
14		5	28th,30th		
15	May	1	1st,2nd	Unit 5 : Non-Linear Data Structures	Trees, Tree Terminology - Node, Root, Parent, Children, Sibling, Edge, Leaves; Binary Tree, Binary Tree,Representation, Binary Tree Traversal, Binary Search Tree, Graphs, Graph Terminology, Directed Graphs,Weighted Graphs, Graph Implementation using Adjacency Matrix and Adjacency List.
16		2	5th,7th,8th,9th (House Test)		
17		3	14th,15th,16th		
18		4	26th,28th		

Signature of Subject Teacher