Lesson Plan & Work-done Diary for AY: 2025-26, EVEN Semester

Course with Code: Design and Analysis of Algorithms –BCS401				**Faculty: Mrs Vanitha G Naik**			**Semester & Section: IV**	
Class No.	**Date planned (DD/M M)**	**Topics to be covered**	**TLP Planned**	**Class No.**	**Date of Conductio n (DD/MM)**	**Topics Covered**	**TLP Executed**	**Remarks I fany deviation**
MODULE-1								
1	27/02	Introduction: What is an Algorithm? It's Properties.	Chalk&Talk	1				
2	02/03	Algorithm Specification-using natural language, using Pseudo code convention, Fundamentals of Algorithmic Problem solving,	Chalk &Talk	2				
3	04/03	Analysis Framework-Time efficiency and space efficiency, Worst-case, Best-case and Average case efficiency.	Chalk &Talk	3				
4	06/03	Performance Analysis: Estimating Space complexity and Time Complexity of algorithms	Chalk &Talk	4				
5	09/03	Asymptotic Notations: Big-Oh notation(O), Omega notation(Ω), Theta notation()with examples, Basic efficiency classes,	Chalk &Talk	5				
6	11/03	Mathematical analysis of Non- Recursive and Recursive Algorithms with Examples.	Chalk &Talk	6				
7	13/03	Brute force design technique: Selection sort, sequential search,	Chalk &Talk	7				
8	16/03	String matching algorithm with complexity Analysis	Chalk &Talk	8				

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MODULE-2								
9	18/03	Exhaustive Search: Travelling Salesman problem	Chalk &Talk	9				
10	20/03	Knapsack Problem	Chalk &Talk	10				
11	23/03	DECREASE-AND-CONQUER: Insertion Sort,	Chalk &Talk	11				
12	25/03	Topological Sorting	Chalk &Talk	12				
13	27/03	DIVIDE AND CONQUER: MergeSort	Chalk &Talk	13				
14	06/04	Quick Sort	Chalk &Talk	14				
15	08/04	Binary Tree Traversals	Chalk &Talk	15				
16	13/04	Multiplication of Large Integers and Strassen's Matrix Multiplication.	Chalk &Talk	16				

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MODULE-3								
17	15/04	TRANSFORM-AND-CONQUER	Chalk& Talk	17				
18	17/04	Balanced Search Trees	Chalk& Talk	18				
19	22/04	Heaps and Heap sort.	Chalk& Talk	19				
20	24/04	SPACE-TIME TRADE OFFS	Chalk &Talk	20				
21	27/04	Sorting by Counting:	Chalk& Talk	21				
22	29/04	Comparison counting sort,	Chalk &Talk	22				
23	04/05	Input Enhancement in String Matching	Chalk &Talk	23				
24	06/05	Horspool’s Algorithm.	Chalk &Talk	24				

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MODULE-4								
25	08/05	DYNAMIC PROGRAMMING: Three basic examples, The Knapsack Problem	Chalk& Talk	25				
26	13/05	Memory Functions, Warshall's	Chalk& Talk	26				
27	15/05	Floyd's Algorithms	Chalk& Talk	27				
28	18/05	THEGREEDYMETHOD	Chalk& Talk	28				
29	20/05	Prim's Algorithm,	Chalk& Talk	29				
30	22/05	Kruskal's Algorithm,	Chalk& Talk	30				
31	24/05	Dijkstra's Algorithm,	Chalk& Talk	31				
32	25/05	Huffman Trees and Codes.	Chalk& Talk	32				

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MODULE-5								
33	26/05	LIMITATIONS OF ALGORITHMIC POWER:	Chalk &Talk	33				
34	27/05	Decision Trees, P,NP Problems	Chalk& Talk	34				
35	29/05	NP-Complete Problems.	Chalk& Talk	35				
36	01/06	COPING WITH LIMITATIONS OF ALGORITHMIC POWER,	Chalk& Talk	36				
37	02/06	Backtracking n-Queens problem,	Chalk& Talk	37				
38	03/06	Subset-sum problem	Chalk& Talk	38				
39	04/06	Branch-and-Bound(Knapsack problem),	Chalk &Talk	39				
40	5/06	Approximation algorithms for NP-Hard problems (Knapsack problem).	Chalk& Talk	40				

	Activity	Planned	Actual	Remarks
1	Theory Classes			
2	Assignments/Quizzes/ Self-study			
3	Tutorials/Extra classes			
4	Internal Assessments			
5	ICT based Teaching (%of usage in Curriculum)			
Planning			**Execution**	
Faculty Signature:			**Faculty Signature:**	
HoD Signature:			**HoD Signature:**	