



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING - CYBER SECURITY

Course with Code: Data Structures and Applications (1BCS305)					Faculty: Ms. BHAVANA V R			Semester & Section: III	
Module	Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
INTRO	1		INTRODUCTION						
MODULE-1	2		Introduction: Data Structures, Classifications (Primitive & Non-Primitive).						
	3		Pointers and Dynamic Memory Allocation,						
	4		Arrays, Dynamically Allocated Representation						
	5		Structures and Unions						
	6		Polynomials.						
	7		Sparse Matrices: Sparse Matrix Representation						
	8		Transposing a Matrix.						





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MODULE-2	9		Stacks: Definition, Stack Operations,						
	10		Array Representation of Stacks,						
	11		Stacks using Dynamic Arrays,						
	12		Stack Applications: Polish notation,						
	13		Infix to Postfix Conversion,						
	14		Evaluation of Postfix Expression.						
	15		Queues: Definition, Array,						
	16		Queue Operations						





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MODULE-3	17		Circular Queues,						
	18		Circular queues using Dynamic arrays						
	19		Multiple Stacks and Queues.						
	20		LINKED LISTS: Singly Linked Lists and Chains,						
	21		Representing Chains in C,						
	22		Linked Stacks and Queues,						
	23		Additional List Operations,						
	24		Sparse Matrices: Sparse Matrix Representation,						
	25		Doubly Linked List						



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MODULE 4	26		Trees: Introduction-Terminology,						
	27		Binary Trees, Properties of Binary trees,						
	28		Array and linked Representation of Binary Trees,						
	29		Binary Tree Traversals – preorder, In order, post order,						
	30		Threaded Binary Trees.						
	31		Binary Search Trees – Definition, Searching						
	32		Insertion,						
	33		Deletion,						
	34		Counting Binary Trees						



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MODULE-5	35		GRAPHS: The Graph Abstract Data Types,						
	36		Elementary Graph Operations.						
	37		HASHING: Introduction,						
	38		Static Hashing						
	39		Dynamic Hashing.						
	40		PRIORITY QUEUES: Single and double ended Priority Queues						
	41		Leftist Trees						
	42		REVISION						





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	Activity	Planned	Actual	Remarks
1	Theory Classes	42		
2	Assignments/ Quizzes/ Self-study	Reflection activity		
3	Tutorials/ Extra classes	-		
4	Internal Assessments	02		
5	ICT based Teaching (% of usage in Curriculum)	100%		
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	

