## VELAGAPUDI RAMAKRISHNA SIDDHARTHA ENGINEERING COLLEGE::VIJAYAWADA

(AUTONOMOUS)

## DEPARTMENT OF IT MICRO LEVEL SYLLABUS

Class	B Tech	Regulation	VR20		
Subject Code	20IT4303	Year & Semester	II YEAR, SEMESTER-II		
Title of the Subject	Advanced Data Structures and Algorithms				

Unit No	Topics Covered (with Sub Topics)	Text	Chapter/S	Page
		Book	ection Number	Number
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	splaying,		4.5.2	160-166
	Top-Down splay trees		12.1	559-566
	Red-Black trees: Bottom-up insertion		12.2.1	566-568
	Top-down-red-black trees,		12.2.2	568-570
	top-down deletion	[ T1]	12.2.3	570-576
	Treaps		12.3	576-579
	Suffix Arrays		12.4.1	579-583
	Suffix Trees		12.4.2	583-586
	Linear-Time Construction of Suffix Arrays and	-	12.4.3	586-596
	Suffix Trees		12	
	Introduction		1	
	Algorithm	1	1.1	1-4
	Algorithm Specification		1.2	5-12
	Performance Analysis	-	1.3	14
	Space Complexity	F. 770.3	1.3.1	15-16
	Time Complexity	[ T2]	1.3.2	17-25
	Asymptotic Notations		1.3.4	39-44
Unit II	Divide and conquer		3	
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	Binary Search	-	3.3	145-149
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	Strassen's Matrix Multiplication		3.8	192-194
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	General Method		7.1	359-369

	8-Queens Problem	[T2]	7.2	373-375
	Sum of Subsets Problem Graph coloring Problem		7.3	377-380
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	Control Abstractions for LC-Search	[T2]	8.1.3	406-411
	FIFO Branch-and-Bound		8.1.5	411-412
	LC Branch-and-Bound		8.1.6	412-412
	0/1 Knapsack Problem		8.2	413-414
	LC Branch and Bound Solution		8.2.1	414-417
	FIFO Branch and Bound solution		8.2.2	417-420
	Traveling Salesperson Problem		8.3	422-426
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