Hall Ticket No.: [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]   **Set-1**

Course Code: **23MTCST02**

MALINENI LAKSHMAIAH WOMEN'S ENGINEERING COLLEGE
(AUTONOMOUS)
I-M.Tech. I-Semester (MR23) Regular Examinations, March - 2024
Advanced Data Structures and Algorithms
COMPUTER SCIENCE & ENGINEERING

Time: 3 hours   Max. Marks: 75

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*Answer **ALL** the questions – **5*15=75 Marks***

Q. No.		Question	Marks	CO	BL
1	a)	What is Abstract data type? Explain Implementation of Dictionaries	(8M)	CO1	L2
	b)	Explain Separate Chaining with example	(7M)	CO1	L3
		(OR)			
2	a)	Following elements are inserted into an empty hash table with hash function f(x) = x% 17 and quadratic probing. Explain. 58, 48, 79, 46, 54, 32, 24, 19, 18.	(7M)	CO2	L1
	b)	What is the importance of Dble hashing technique	(8M)	CO2	L2

Q. No.		Question	Marks	CO	BL
3	a	What is the need of Randomizing data structure? Give an example	(8M)	CO2	L2
	b	Explain Search Operation algorithm on Skip Lists.	(7M)	CO2	L3
		(OR)			
4	a	Explain Probabilistic analysis of Skip Lists with example	(8M)	CO2	L2
	b	Explain Update operations on Skip Lists	(7M)	CO2	L3

Q. No.		Question	Marks	CO	BL
5	a	Explain briefly abt Binary Search tree	(7M)	CO3	L2
	b	Describe Red Balck tree algorithm with example	(8M)	CO3	L3
		(OR)			
6	a	What is AVL tree? Show the result of inserting 3, 1 , 4 , 6 , 9 , 2 , 5, 7 into an initially empty AVL tree?	(8M)	CO3	L2
	b	Differentiate B-trees and 2-3 Trees with example	(7M)	CO3	L3

Q. No.		Question	Marks	CO	BL
7	a	Write abt Boyer-Moore Algorithm and explain in detail	(7M)	CO4	L2
	b	What is Longest Common Subsequence Problem(LCS)	(8M)	CO4	L3
		(OR)			
8	a	List the advantages and disadvantages of Tries	(8M)	CO4	L2
	b	Explain abt Brute-Force Pattern Matching	(7M)	CO4	L3

Q. No.		Question	Marks	CO	BL
9	a	Write a brief notes Two Dimensional Range Searching	(7M)	CO5	L2
	b	How to Construct a Priority Search Tree? Explain in detail.	(8M)	CO5	L3
		(OR)			
10	a	Discuss Recent trends in Hashing and Trees	(8M)	CO5	L2
	b	Explain K-D Trees in Detail with example	(7M)	CO5	L3