Course Code: 1930511 Roll No: 1931211

MLRS- R19

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

II B.Tech I Sem Regular End Examination, March 2021

DATA STRUCTURES

(CSE & IT)

Time: 3 Hours. **Max. Marks: 70**

Note: 1. Answer any FIVE questions.
2. Each question carries 14 marks and may have a, b as sub questions.

1	a)	Write an algorithm to delete an element from a doubly linked list.	7M	CO1	L2
	b)	Convert the following expression X+(Y*Z)-(N*M+O)/Q into postfix form.	7M	CO2	L3
2		Illustrate the linked list implementation of Queue ADT.	14M	CO1	L2
3	a)	Describe the operations of skip list with an example.	7M	CO1	L2
	b)	What is Collision? Explain quadratic probing collision resolution technique with an example.	7M	CO2	L1 & L3
4		Write an algorithm to construct the AVL tree for the following data 38, 40, 50, 2, 5, 76, 35, 14, 7.	14M	CO4	L3
5	a)	What is the purpose of hash table? Explain the representation of hash table with an example.	7M	CO4	L2
	b)	Write an algorithm for insertion operation of a binary search tree.	7M	CO4	L2
6		Construct max heap for the following data 40, 80, 50, 30, 20, 60, 100, 130, 110, 120.	14M	CO4	L3
7	a)	Describe the functionality of BFS algorithm with an example.	7M	CO4	L2
	b)	Explain Boyer-Moore algorithm in detail.	7M	CO3	L2
8		Write Knuth-Morris-Pratt pattern matching algorithm	14M	CO3	L2

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