

Code No: 812AF

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD MCA II Semester Examinations, April/May - 2019 DATA STRUCTURES AND ALGORITHMS

Time: 3 Hours

Max. Marks: 60

5 · · 4 Manlan 20

[8]

Note: This question paper contains two parts A and B. Part A is compulsory which carries 20 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 8 marks and may have a, b, c as sub questions.

PART - A

	5×4 Ma	rks = 20
1.a)	Write briefly about Abstract Data Type.	[4]
b)	Write a short note on Graph Representations.	[4]
c)	When quick sort will take more time to sort the list? Give an example.	[4]
d)	Discuss briefly about B-Tree	[4]
a)	Write about Knuth Morris Pratt algorithm	[7]
<i>e</i>)	white about Khuth-Wohns-i fatt algorithm.	[4]
	PART - B	
	5 × 8 Ma	rks = 40
2.	Write an algorithm to convert a valid arithmetic Infix Expression into it ec	quivalent
	Postfix Expression. Trace your algorithm for A-B/C+D*E+F.	[8]
	OR C	
3.a)	Explain the difference between Stack and Queue.	
b)	Write an algorithm of operation of doubly linked list.	[4+4]
/		
4.	Define Disjoint Set? Explain the Operations that are performed on Sets.	[8]
	OR	[~]
5	What is Heap? Construct the man heap of the following list of	elements
	50 30 60 80 40 20 90	[8]
	30,30,00,00,10,20,90	[0]
6	Explain about Merge Sort? Why Merge Sort is considered as External Sort	[8]
0.	OR	[0]
7	Discuss Radiy Sort with suitable example	[8]
7.	Discuss Radix soft with suitable example.	[0]
8	Explain about Red Black tree and AVI tree? Which is better AVI or Red Black	z Tree?
0.	Explain about Red Black tree and AVE tree? Which is better AVE of Red Black	[8]
	OP	[0]
0	UN Define Binery Search Tree? With example explain operations of Binery Search	FQ1
9.	Define Binary Search Tree? with example explain operations of Binary Search	. [0]
10.	Considered the following jobs:	
	Job ID Deadline Profit	
	A 4 20	
	B 1 10	
	C 1 40	
	D 1 30	
	Find the Maximum Profit using Job Sequencing with Deadlines?	[8]

OR

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11. Describe All Pair Shortest Path with suitable example? www.FirstRanker.com