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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD MCA II Semester Examinations, January - 2018 DATA STRUCTURES AND ALGORITHMS

Time: 3 Hours

Code No: 812AF

Max. Marks: 60

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 Marks = 20
Define Performance Analysis? Explain the Techniques.	[4]
Write about Disjoint Sets.	[4]
Explain Linear Search with an example.	[4]
Explain Splay Trees with an example.	[4]
Write short note on Pattern matching.	[4]
	Define Performance Analysis? Explain the Techniques. Write about Disjoint Sets. Explain Linear Search with an example. Explain Splay Trees with an example. Write short note on Pattern matching.

PART - B

5×8 Marks = 40

2.	Define Algorithm and Write the Algorithm to implement Queue Operations analyze its complexity.	and also [8]
3.	Define ADT and write the procedure to convert infix to postfix expression.	[8]
4.a)	Write the procedure for Depth First Search.	
b)	Explain Binary Tree Representation methods.	[4+4]
5.	Explain about Graph Representation methods with an example.	[8]
6.a)	What is Hashing? Explain in detail.	
b)	Write about Radix Sort with an example.	[4+4]
	OR	
7.a)	Define Divide and Conquer method. Explain Quick Sort.	
b)	Discuss in detail about merge sort with an example.	[4+4]
8.	What is B-Tree? Explain about B-Tree with an example.	[8]
9.	Define BST. Discuss about Binary Search Tree operations with examples.	[8]
10.a)	Write the procedure to implement KMP algorithm.	
b)	Write about Minimum Cost Spanning Tree.	[4+4]
OR		
11.a)	Explain Tries with examples.	
b)	Write about Kruskal's Algorithm.	[4+4]

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