Enrolment

Seat No.:	
No	

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

## ME - SEMESTER- I EXAMINATION - WINTER 2014

	-	Code:2710314 Date:12/01/20	15
Ti	njeci me: tructio	Name:Data Structure with Object oriented programming  Total Marks:	70
IIIS		Attempt all questions.  Make suitable assumptions wherever necessary.	
Q.1	(a) (b)	Write an algorithm/program to Delete a node from Doubly Linked List. Write an algorithm to convert infix to postfix expression and explain it with example	07 07
Q.2	(a) (b)	Organize an array of following elements as a heap with a top-down method. 2, 8,6,1,10,15,3,12,11 Explain in detail skip lists	07 07
	(D)	OR	U /
	<b>(b)</b>	Explain tail and nontail recursion using example.	07
Q.3		Construct a binary search tree for the following sequence. Also do the inorder and postorder traversal for the same 45,56,39,12,34,78,54,67,10, 89	14
Q.3		<b>OR</b> Define Graph. Write an algorithm to do BFS and DFS traversal of a Graph.	14
Q.4		Write an algorithm/program for sorting the following integers using bubble sort. 32, 51, 27, 85, 66, 23, 13, 57. Also show the stepwise bubble sort method involved in sorting the integers	14
Q.4		OR Write an algorithm/program for sorting the following integers in descending order using insertion sort. 25,57,48,37,12,92,86,33 Also show the stepwise insertion sort method involved in sorting the integers	14
Q.5	(a) (b)	Write an algorithm for insert operation at end of Linked List.  Explain PUSH operation of the stack with algorithm and example.  OR	07 07
Q.5	(a) (b)	Write an algorithm/program to delete an element from queue. Write C++ program for Fibonacci series using recursive function.	07 07

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