GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–III (OLD) EXAMINATION – WINTER 2018

Subject Code:130702   **Date:28/11/2018**

Subject Name:Data And File Structure

Time:10:30 AM TO 01:00 PM   **Total Marks: 70**

Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	List and explain all primitive and non-primitive data types.	07
	(b)	1. Write the algorithm to Insert a value in Circular Queue.	03
		2. Evaluate the given post-fix expression using stack:	04
		$9\ 1\ /\ 9\ 3\ /\ 9\ 1\ /\ +\ -$	
		Show stacks status at each step.	
Q.2	**(a)**	Explain working of doubly ended queue with example.	07
	(b)	Give the algorithm to convert infix expression to reverse polish expression.	07

<div align="center">OR</div>

	(b)	1. Draw binary tree for following pre-order and post-order traversals.	03
		In-order: CBAEFDG	
		Post-order: CBFEGDA	
		2. Convert the following expression to postfix expression.	04
		((7-2)*4+(6/2^1*9))	
Q.3	**(a)**	Show linked list representation of polynomial.	07
	(b)	Write a C program that inserts DLL node into doubly linked list.	07

<div align="center">OR</div>

Q.3	**(a)**	Give an example of linked implementation of stack.	07
	(b)	Write a short note on application of linked lists.	07
Q.4	**(a)**	Explain threaded binary trees.	07
	(b)	Show working of weight balanced trees with example.	07

<div align="center">OR</div>

Q.4	**(a)**	Define spanning trees and minimal spanning trees. Give any one example to find minimal spanning tree.	07
	(b)	Explain 2-3 trees with example.	07
Q.5	**(a)**	Explain all the collision resolution techniques.	07
	(b)	Write a short note on indexed file organization.	07

<div align="center">OR</div>

Q.5	**(a)**	List all the hashing techniques and explain each one of them.	07
	(b)	Write a short note on multi-key file organization.	07

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