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**OBE** 

## **Internal Assessment Test 1 – April 2019**

Sub:	Data Structures using C++								18MCA22
Date:	15-04-19	Duration:	90 mins	Max Marks:	50	Sem:	II A	Branch:	MCA

**Note:** Answer any full 5 questions. All questions carry equal marks. Total marks: 50

Marks **RBT** 10 CO<sub>1</sub> L1 1. What is Data Structure? Explain the classification of Data Structures with an example. Give any four applications of Data Structures. (OR) CO1 2. What is abstract data type give an example? Describes Stack ADT and write the 10 L1algorithms. 3. What is an array? Write an algorithm to Insert and Delete an element from an array. 10 CO2C L2 03 (OR) 4 Describe Quicksort algorithm and sort the following set of items showing the items at 10 CO2 .2 L3 CO3 65,70,75,80,85,60,55,50,45 each stage: 5. Explain the algorithm to convert infix expression to postfix expression? Illustrate 10 CO2 L3 CO3 with the example. A+(B\*C-(D/E-F)\*G)\*H

(OR)

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CMR INSTITUTE OF TECHNOLOGY

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Write an algorithm to evaluation of a postfix expression. Explain with an example.	10	CO4	L3
7 : a. What is recursion? Explain the process of recursion	4	CO2	L1
bWrite a recursive algorithm to find the nth term if Fibonacii series. Give the	6	CO4	L2
recursion tree.			
(OR)			
8 Write an algorithm to convert Prefix expression to Postfix expression? Illustrate with an example	10	CO4	L3
a)Write an algorithm for selection sort. Explain with an example	5	CO2	L2
b) Write a recursive algorithm to find the GCD of two numbers.		CO4	L3
,	5		
(OR)			
$^{ m 0}$ a)Write an algorithm to search an item in a given list using $$ binary search $$	5	CO2	L2
Illustrate with an example	_	CO3	
b) Write an algorithm for Bubble sort. Explain with an example	5		
b) write are argumentor babble both Explain with are example			

6	Write an algorithm to evaluation of a postfix expression. Explain with an example.	10	CO4	L3
7	<ul> <li>a. What is recursion? Explain the process of recursion</li> <li>b Write a recursive algorithm to find the nth term if Fibonacii series. Give the recursion tree.</li> <li>(OR)</li> </ul>	4 6	CO2 CO4	L1 L2
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10	<ul><li>(OR)</li><li>a)Write an algorithm to search an item in a given list using binary search.</li><li>Illustrate with an example</li><li>b) Write an algorithm for Bubble sort. Explain with an example</li></ul>	5	CO2 CO3	L2