Krantiguru Shyamji Krishna Verma Kachchh University, Bhuj
Master of Science (Computer Applications & Information Technology)
Semester: II

Paper Code: CCCS207	**Total Credit :** 4
Title of Paper: Practical Based on CCCS205	**Total Marks :** 70 **Time :** 3 Hrs

Unit	**Description**	**Weighting**

Recursion and Backtracking

1. Solving Tower of Hanoi Problem.
2. Given an array, check whether the array is sorted or not using recursion.
3. Generate all the binary strings with *n* bits. Assume *A*[0…n-1] is an array of size *n*.

Linked List

4. Implement Stack using Linked List.
5. Check whether the given Linked List is either null terminated or not, if there is a cycle, find the start node of the loop.
6. Insert a node in sorted Linked List.
7. How to display a Linked List from end?

Stacks and Queues

8. Evaluate postfix expressions with Stack.
9. Given a Stack, how to reverse the Stack using only Stack operations push and pop.
10. How to implement three Stacks in one array? Every node in array should be used.
11. Given an array of elements, replace every element with nearest greater element on the right of that element.
12. Implement a Queue using just two Stacks, How can we efficiently implement one Stack using two Queues.
13. Given a string, check whether it is palindrome or not using a double ended queue.

Trees

14. Searching an element in a binary tree (with and without recursion).
15. Inserting an element into a binary tree.
16. Finding deepest node of the binary tree.
17. For a given binary tree (not threaded) how do we find a pre-order successor?

NOTE: This list is not exhaustive; the instructor should formulate appropriate problems wherever required.

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<tr><td rowspan="2">I</td><td>Q.1 (A) Viva – Voce</td><td>20</td><td rowspan="2">70</td></tr>
<tr><td>Q.1 (B) Practical</td><td>50</td></tr>
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