

B. Sc. (HONOURS) THIRD SEMESTER EXAMINATIONS, 2021-22

RAMANANDA COLLEGE

Subject: Computer Science

Course Code: SH/CSC/301/C-5

Course ID: 31521

Course Title: Data Structures (Practical)

Full Marks: 15

Time: 2 Hrs.

The figures in the margin indicate full marks

1. Answer any one of the following questions:

(10)

- a) Perform Stack operations using Array implementation. Use Template.
- b) Write a program to calculate factorial of a given number:
 - (i) Using recursion
 - (ii) Using iteration.
- c) Write a program to search an element from a list. Give user the option to perform Linear or Binary search. Use Template function
- d) Implement Doubly Linked List using Templates. Include functions for insertion, deletion and search of a number, reverse the list.
- e) Write a program to calculate GCD of two numbers:
 - (i) Using recursion
 - (ii) Using iteration.
- f) Perform Stack operations using Linked List implementation.
- g) Write a program to implement Upper Triangular Matrix using one-dimensional array.
- h) Write a program to implement Lower Triangular Matrix using one-dimensional array.
- i) Write a program to display Fibonacci series:
 - (i) Using recursion
 - (ii) Using iteration.