

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.

B.Sc. END SEMESTER EXAMINATION APRIL/NOV - 2021

SEMESTER - III

20UCSCT3003 - Data Structures and Algorithms

Total Duration : 3 Hrs	Total Marks : 75
MCQ : 30 Mins	MCQ : 15
Descriptive : 2 Hrs.30 Mins	Descriptive : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. a) Define Array b) Explain the various operations on Arrays with example.
2. Explain about Queues with its operations.
3. Illustrate with an example about Polynomial Addition.
4. a) Define Hashing function b) Explain about Hash Tables.
5. What is an Algorithm? Write an Algorithm for Quick Sort.
6. Explain Singly-Linked List with its operations.
7. Define the following: a) Data Structure b) Trees c) Recursion d) Graphs.
8. What is Binary Search? Explain

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Define Stack and Explain with its operations and example.
10. Explain about Circular Queue with example.
11. Describe Doubly Linked List- Operations with example.
12. Explain about various Tree Traversals with algorithm and example.
13. What is Merge Sort? Explain Merge Sort Algorithm with example.