

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.C.A. END SEMESTER EXAMINATIONS APRIL-2023

SEMESTER - III

20UACT3004 - Data Structures and Algorithms

Total Duration : 2 Hrs 30 Mins.

Total Marks : 60

Section B

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

1. Define Array. Explain Operations on Arrays.
2. Explain: Polynomial addition with example.
3. Classify: Graph types with example.
4. Explain: Binary Search algorithm.
5. What is Recursion? Explain with example.
6. Explain: Doubly Linked List concept for Ordering of Books in Library.
7. Illustrate: Dijkstra's Algorithm.
8. Justify: Merge sort algorithm with example.

Section C

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

9. Explain: Order Lists.
10. Solve: Infix to Postfix expression with the steps in algorithm:
 $K + L - M * N + (O \wedge P) * W / U / V * T + Q$
11. Distinguish between Singly and Doubly linked list.
12. Classify: Hashing Table and Hashing Functions.
13. Assess: the various Divide and Conquer methods.
