

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.

BCA - END SEMESTER EXAMINATIONS APRIL - 2024

SEMESTER - II

23UACT2002 - Data Structures and Algorithms using Python

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

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

1. Explain the Scopes and Namespaces in Python.
2. Illustrate the asymptotic analysis in detail.
3. Classify the tree traversals techniques with an example.
4. Explain the concepts graph with an example.
5. Describe the Divide and Conquer techniques.
6. Apply the concept of doubly linked list in a simple program.
7. Explain hashing table and functions.
8. Examine the concept of AVL trees.

Section C

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

9. Explain the operators and its types in Python.
10. Apply the concept of stack and queue.
11. Examine the various operations that can be performed on a singly linked list.
12. Compute the shortest path using Dijkstra's algorithm.
13. Compare and contrast between Merge sort and Quick sort.
