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.(Computer Science) END SEMESTER EXAMINATIONS NOVEMBER -2023
SEMESTER - III

21UCSCT3004 - 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 Data Structure. Explain various types of Data Structure in detail.
2. Write short note on binary search trees.
3. Write short note on maps and dictionaries in data structure.
4. Describe the Asymptotic analysis of an algorithm.
5. Define Stack and explain the two operations on Stack.
6. Explain about Minimum and Maximum algorithm with example.
7. Describe about Hashing function.
8. Examine the Time complexities of different data structures.

Section C

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

9. Illustrate the analysing recursive algorithms.
10. Classify the types of linked list.
11. Examine insertions and deletions binary search trees.
12. Explain Graph Traversal with example.
13. Explain with an algorithm for sorting elements using Merge Sort and Quick Sort.

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