

Roll.No.

25UAICT3003

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.Cs with AI. - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - III

25UAICT3003 - 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. Sketch the key features of Abstract Data types(ADT).
2. Convert the following infix expression into prefix notation form:
(A + B * (C - D))
3. Describe the basic operation in stack. Give example for isEmpty() operation.
4. Classify the Graph types.
5. Explain Hill climbing algorithm with example.
6. Differentiate bubble sort and radix sort
7. Illustrate Linear search with array.
8. Examine the advantages and disadvantages of linked list

Section C

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

9. Compare inorder, preorder and postorder traversal in binary tree with example.
10. Classify the Queue types with example.
11. Justify the branch and bound algorithm with searching techniques.
12. Describe the various sorting techniques in data structure.
13. Assess the insertion, deletion and search operations performed in Singly linked list and doubly linked list.
