

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 EXAMINATION APRIL/NOV - 2021

SEMESTER - III

20UCACT3004 - Data Structures and Algorithms

<b>Total Duration : 3 Hrs</b>		<b>Total Marks : 75</b>	
MCQ	: 30 Mins	MCQ	: 15
Descriptive	: 2 Hrs.30 Mins	Descriptive	: 60

Section B

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

1. Explain the Data types in detail.
2. Describe the Array Operations.
3. Explain the applications of Stack.
4. Solve the Maze problem with suitable examples.
5. Explain the Doubly Linked List with an example.
6. Show the conversion of Forest to Binary tree.
7. Classify the types of Graphs.
8. Describe the algorithm for finding the Maximum and Minimum.

Section C

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

9. Determine the operations of Singly Linked List.
10. Distinguish Trees and Graphs with suitable example.
11. Examine the Traversal Shortest path using Dijkstra's Algorithm.
12. Solve the Merge Sort with an example.
13. Explain the Divide and Conquer method with an example.