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Roll No. ....   Total Pages : 2

BT-3/D-21   **43202**

DATA STRUCTURES
Paper : PC-CS-CYS-203A/ES-CS-AIML-203A

Time : Three Hours]   [Maximum Marks : 75

Note : Attempt *five* questions in all, selecting at least *one* question from each unit. Each question carry equal marks.

UNIT–I

1. (a) Explain the notations of Space and time complexity.
   7
   (b) Write a short note on sparse matrix. 8

2. (a) Describe linear search algorithm to search an element from an array. 7
   (b) Explain the selection sort algorithm with the help of suitable example. 8

UNIT–II

3. Describe stack and its operations. 15

4. (a) Explain sequential queues and its limitations. 10
   (b) Write a short note on priority queues. 5

UNIT–III

5. Explain the following terms :

    (a)   Need of dynamic data structures.

    (b)   Insertion and deletion in singly linked list.   15

6. Describe circular linked list and its operations.

UNIT–IV

7.   (a)   Write a short note on minimum spanning tree.   8

    (b)   Write a short note on AVL trees.   7

8. Describe Graph traversal algorithms with the help of suitable examples.   15

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