

Roll No. ....

**D-3840**

**B. C. A. (Part II) EXAMINATION, 2020**

**(Old Course)**

Paper Third

DATA STRUCTURE

**(201)**

*Time : Three Hours ]*

*[ Maximum Marks : 50*

**Note :** Attempt any *two* parts of each Unit. All questions carry equal marks.

**Unit—I**

1. (a) Explain need of Data Structures.
- (b) Explain classification of Data Structure.
- (c) Write operations on Data Structure.

**Unit—II**

2. (a) Write algorithm for Linear Search.
- (b) Write advantages of Pointer Arrays.
- (c) Write advantages and disadvantages of Arrays.

**Unit—III**

3. (a) Write algorithm to insert and delete element in queue.
- (b) Write an algorithm to insert element in linked list at front of the list.
- (c) Write a note on Array representation of stack.

**(A-28) P. T. O.**

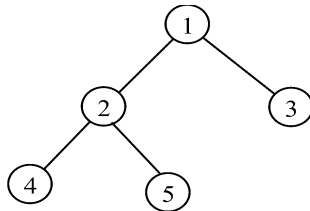
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**Unit—IV**

4. (a) Create the binary search tree using the following data elements :

43, 10, 79, 90, 12, 54, 11, 9, 50

- (b) Write Pre-order, Post-order and Inorder traversal of the following tree :



- (c) Explain the following :

- (i) Complete Binary Tree
- (ii) Expression Tree

**Unit—V**

5. (a) Write algorithm for Merge Sort.  
(b) Write Program/Algorithm for selection sort.  
(c) Write advantages of Binary Search.