Roll No.						

Total No. of Pages: 02

Total No. of Questions: 07

BCA (Sem. - 3)

DATA STRUCTURES

Subject Code: BSBC-302

M Code: 10058

Date of Examination: 14-12-2022

Time: 3 Hrs.

INSTRUCTIONS TO CANDIDATES:

- 1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

- 1. Write briefly:
 - a) Define Complexity:
 - b) What is meant by an index of an array?
 - c) Name any two operations performed on Queues.
 - d) List two applications of stacks.
 - e) What is meant by pointer?
 - f) Name the complexity of bubble sort.
 - g) Define Priority queue.
 - h) Name two conditions required for Recursion.
 - i) What is meant by a doubly linked list?
 - j) Define the height of a binary tree.

Max. Marks: 60

SECTION-B

- 2. a) What are the different types of data structures? Explain.
 - b) Explain the term "Algorithm Complexity".
- 3. a) Discuss the steps for a binary search algorithm.
 - b) Write an algorithm selection sort.
- 4. What is meant by queue data structure? Write an algorithm to demonstrate Enqueue and Dequeue operations.
- 5. Explain the concept of Polish notation by taking some suitable examples.
- 6. a) Discuss the insertion and deletion for a singly linked list.
 - b) What is meant by garbage collection? Explain.
- 7. a) Explain the Postorder traversal of a binary tree.
 - b) Discuss binary tree representations in memory.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.