

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.

Max. Marks: 60

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.

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.

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