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Roll No.					Total No. of Pages: 0
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BCA (2011 & Onward) (Sem.-3)

DATA STRUCTURES

Subject Code: BSBC-302

Paper ID: [B0229]

Time: 3 Hrs. Max. Marks: 60

## **INSTRUCTION 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 a student has to attempt any FOUR questions.

## **SECTION -A**

## 1. Write briefly:

- 1. What is Big O Notation?
- 2. How does Binary Search differ from Linear Search?
- 3. Define Sorting.
- 4. Differentiate between Stacks and Queues.
- 5. What is the role of Polish Notation in arithmetic expression evaluation?
- 6. What is the function of Dynamic Storage Management?
- 7. What is the significance of Circular Linked List?
- 8. Name and explain different types of Queues in Data Structures.
- 9. List any three applications of trees.
- 10. What do you mean by Depth of a tree?

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## **SECTION-B**

- 2. What are the points to be considered before choosing a Data Structure? Discuss different types of Data Structure(s) available.
- 3. What is Recursion? Explain in detail by means of an example.
- 4. Write down the algorithm to reverse a doubly linked list.
- 5. Discuss in detail, different tree traversal algorithms. Also discuss applications of tree(s).
- 6. How Selection Sort works? Write down the algorithm for the same.
- 7. What do you mean by Garbage Collection? Discuss its significance. Also specify its advantages and limitations.



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