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B.Sc. (IT) / BCA (Sem.-3)

## **DATA STRUCTURES**

Subject Code: UGCA-1915 M.Code: 78181

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** 

## Write briefly:

- 1) Dangling Pointer
- 2) Define Array
- 3) Big 'O' Notation
- 4) Define Stack
- 5) Hashing
- 6) Sparse Matrix
- 7) Reverse Polish Notation
- 8) out-degree
- 9) Sorting

10) Recursion

## **SECTION-B**

- 11) What is a pointer? How dynamic memory is allocated?
- 12) Explain depth first search and breadth first search in graphs.
- 13) How to convert in-fix notation into post-fix notation?
- 14) How complexity of an algorithm is checked? Explain its types.
- 15) What is a Queue? Write algorithm to insert and delete a node in circular queue.
- 16) What is BST? Explain its traversals with an example.

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.

