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Total No. of Pages : 02

Total No. of Questions : 07

B.Sc. (G & WD / IT) / BCA (Sem.-3)

DATA STRUCTURES

Subject Code : UGCA1915

M.Code : 78181

Date of Examination : 23-12-2023

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) Flowchart
- b) Dynamic memory allocation
- c) Strings
- d) Multiple stack
- e) Priority queue
- f) Circular linked list
- g) AVL tree
- h) Graph
- i) Quick sort
- j) Hashing.

SECTION-B

2.
 - a) What do you mean by data structure? Explain complexity of an algorithm.
 - b) What do you mean by an Array? How a multi-dimensional array differs from one dimensional array?
3. Define Stack. What operations are performed on a stack? Write applications of a stack.
4. What is linked list? Discuss the various operations on linked list. How single linked list is different from doubly linked list?
5. What is a binary tree? How it is traversed? How a binary search tree is different from a binary tree?
6. **Write short notes on following :**
 - a) Adjacency matrix
 - b) Linear search
7. Explain the concept of Hashing and Hashing function. What are various collision resolution techniques?

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.