

Roll No.

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Total No. of Pages : 02

Total No. of Questions : 09

M.Sc.(IT) (2015 Batch) (Sem.-2)

DATA STRUCTURE

Subject Code : MSIT-203

Paper ID : [72730]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks each and students has to attempt any ONE question from each SECTION.
2. SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.

SECTION A

- Q1) Differentiate between Linear and Non Linear Data structures with suitable examples.
- Q2) What do you mean by algorithm complexity? Explain time and space tradeoff among algorithm.

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SECTION B

- Q3) What do you mean by Binary tree? Write algorithm to insert elements into Binary tree.
- Q4) What do you mean by Heap? Explain various operations on heap.

SECTION C

- Q5) Explain different types of Graphs. How Graphs can be represented in Memory?
- Q6) Distinguish between the Breadth first and Depth first traversals in a graph by taking suitable examples.

SECTION D

- Q7) What do you mean by Sorting? Explain the concept and efficiency of various algorithms.
- Q8) What is collision in hashing? How collision can be resolved? Explain various methods to resolve collision.

SECTION E

Q9) Write short notes on :

- a) Doubly link List
- b) Hashing
- c) AVL Tree
- d) Tree Traversal
- e) Dynamic Memory Management
- f) Circular Queue
- g) Arrays of pointers
- h) Priority Queue
- i) Efficiency of Searching Algorithms
- j) Height of a Tree.

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