

Roll No. ....

Exam Code : J-19

Subject Code—0115

**P.G.D.C.A/M.Sc./M.C.A. EXAMINATION**

(Main & Re-appear)

(Batch 2009 Onwards)

(Second Semester)

(MCA-3 Years)

**DATA STRUCTURE AND ALGORITHMS**

MS-06

*Time : 3 Hours*

*Maximum Marks : 70*

**Section A**

**Note :** Attempt any *Seven* questions. **7×5=35**

1. What is Computer Data Structures ? Define and explain.
2. Discuss utility of queue in brief.

3. Write a short note on Doubly link list.
4. What is binary tree ? Explain examples.
5. Discuss balance tree with example.
6. Different way of representation of Graphs.
7. Analyse any *one* sorting technique.
8. Discuss internal sorting with example.
9. Write short note on various Hashing Techniques.
10. What is dynamic storage ? Explain.

### Section B

**Note :** Attempt all the questions.

11. Discuss the utility of various data structures in Computer Algorithms. **12**

*Or*

Discuss utility and various operations of stack along with its algorithms.

12. What are circular linked lists ? Explain with its algorithms,. **12**

*Or*

Discuss various tree traversal algorithms in detail.

13. Write any *two* sorting algorithms along with its analysis. **11**

*Or*

Explain internal and external sorting technique along with analysis.