

2042

MCA-03/  
PGDCA-02

M.C.A./P.G.D.C.A. EXAMINATION  
JANUARY, 2006.

First Semester

DATA STRUCTURES THROUGH C

Time : 3 hours

Maximum marks : 60

PART A — (4 × 5 = 20 marks)

Answer any FOUR questions.

1. Explain the basic structure of a C program.
2. Describe the four basic data types.
3. Compare while loop with do-while loop.
4. Explain the difference between 'call by reference' and 'call by value'.
5. What is a Queue? Explain the various operations performed on it.
6. State and explain the Heap Sort algorithm.

PART B — (4 × 10 = 40 marks)

Answer any FOUR questions.

7. State the differences between structure and union in C.
8. What are pointers? Explain the usage of pointers in C.
9. Describe the tree traversal techniques and explain their applications.
10. How a graph can be represented by its adjacency list and matrix? Explain it.
11. Write the operation on AVL Tree and explain them.
12. Write and explain the breath-first search algorithm and depth first search algorithm.