MCA–753 **MCA–03/ PGDCA–02**

M.C.A. DEGREE/P.G.D.C.A. EXAMINATION – JUNE, 2010.

First Year

DATA STRUCTURES THROUGH C

Time : 3 hours Maximum marks : 75

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions.

1. Define an expression. Classify the types of expressions.

2. Write a 'C' program to interchange the values of A and B without using a temporary variable.

3. Explain any three functions thro which the strings can be read into the memory.

4. What is meant by recursive function? Explain.

5. Convert the following infix expression into its equivalent postfix notation.

$A + (C - D)/(B * D)$.

6. What is meant by level-by-level traversal of a tree? Explain.

7. List out the disadvantages of sequential file organization.

PART B — ($5 \times 10 = 50$ marks)

Answer any FIVE questions.

8. Write a program that accepts the coefficients a, b and c of a quadratic equation and determine whether its roots are real, complex or equal.

9. Write a program to find the total in row-wise and in column wise of a given matrix. Also find the sum of all diagonal elements.

10. Write a program to add a node in the front of a list.

11. Illustrate the depth-first search procedure in detail.

12. Explain the deletion of a node in a binary search tree.

13. Explain indexed sequential file organization briefly.

14. Bring out the analysis of sequential search with an example.

———————