

MCA-413**MCA03/
PGDCA-02**

**M.C.A. DEGREE/P.G.D.C.A. EXAMINATION –
JUNE 2009.**

First Semester / First Year

DATA STRUCTURES THROUGH C

Time : 3 hours

Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. What is meant by Library functions? Bring out its importance.
2. What is meant by a reserved words? Why are they used? Explain briefly.
3. Write the syntax of switch () statement.
4. Write a program to print the following design :

```
*  
* *  
* * *  
* * * *  
* * * * *
```

5. What is meant by an ordered list? Explain briefly.
6. Explain linear search with an example.
7. Define a B-Tree. Give an example.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Write a program to find the roots of a quadratic equation of the form $ax^2 + bx + c = 0$ using functions.
9. What is meant by ‘formal parameters’? Explain with an example.
10. What is meant by Garbage collection and compaction? Illustrate with an example.
11. Write a procedure to evaluate a postfix expression using stack.
12. Declare a structure with the fields Roll No., name, mark1, mark2. Input and output this structure data using pointer to a structure. How to solve without pointer variable?
13. Explain the procedure to add an element in the queue with the implementation.
14. Write an algorithm of Quick Sort to arrange the art of given numbers.