Code :9F00105

MCA I Semester Regular & Supplementary Examinations, February 2011
DATA STRUCTURES
(For students admitted in 2009 & 2010 only)

Time: 3 hours												**Max Marks: 60**

Answer any FIVE questions
All questions carry equal marks
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1. (a) What is a function? State the advantages of using functions.
   (b) What are the differences between arrays and normal variables. Explain two dimensional arrays with examples.

2. Explain the various operations that can be performed on singly linked list with examples.

3. (a) Write the procedure to convert an infix expression to postfix.
   (b) Write a program to implement Towers of Hanoi.

4. (a) Give briefly description about priority queues.
   (b) Explain the linked representation of queues with an example. Also give the applications of queues.

5. (a) Derive the average case time complexity for quick sort.
   (b) Explain with suitable example, sorting of elements using selection sort.

6. (a) What is Hash table, explain the usage of it?
   (b) Write a program to find the Fibonacci sequence of a given number.

7. (a) Explain the deletion of an element from binary search tree.
   (b) Write a non recursive procedure for tree traversal using post order.

8. What are height balanced trees? Explain them with an example.

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