Code: 9F00105

MCA I Semester Supplementary Examinations August 2014 DATA STRUCTURES

(For students admitted in 2009, 2010, 2011, 2012 & 2013 only)

Time: 3 hours

Max. Marks: 60

Answer any FIVE questions All questions carry equal marks

- 1. (a) Explain any five string handling functions with their syntax and example.
 - (b) Write a program in C to find the sum of the individual digits of a given number.
- 2. (a) Explain with suitable example, the insertion operation on single linked list.
 - (b) Give brief description about the circular double linked lists.
- 3. (a) Write the procedure to convert the infix expression to postfix form and explain it with suitable example.
 - (b) Write a non recursive program to find the factorial of a given number.
- 4. (a) What is a priority queue? Explain the max priority queue with example.
 - (b) Write a program in C implement the queue operations.
- 5. (a) Derive the average case time complexity for quick sort.
 - (b) Explain the sorting of elements by using the radix sort technique.
- 6. (a) Discuss in detail about the inverted tables.
 - (b) Compare the time complexities of different searching algorithms.
- 7. Write and explain the various non recursive tree traversal algorithms with suitable example.
- 8. Write short notes on the following:
 - (a) Min heap.
 - (b) Insertion operation on binary search trees.
 - (c) Heap sort.
