Examination May-2014

B.Tech.(CSE)

Data Structures – BTCS 304

Time: 3 Hours M.Marks 60

NOTE: NOTE: Section A of the question paper is compulsory. Attempt any four questions from Section B. Attempt any two questions from Section C.

Section A

1. Answer the following in brief: $2 \times 10 = 20$
   a) Dangling pointers
   b) Abstract Data Type
   c) Post-fix Expression
   d) Priority queue
   e) Linked representation of queue
   f) B-Tree
   g) Depth First Search
   h) Double hashing
   i) Big O notation
   j) Radix sort

Section B

Note: Attempt any four questions from this section.

2. How arrays are stored in memory? Explain column major representation of an array. (05)
3. Explain conversion from infix to postfix representation with the help of stack use. (05)
4. Explain the linked representation of a circular queue and operations to be performed on it with the help of suitable example. (05)
5. Discuss the application of heap in implementing priority queue with the help of suitable example. (05)
6. What is a hash function? Discuss the concept of collision resolution in hash table with the help of suitable example. (05)

Section C

Note: Attempt any two questions from this section.

7. Consider the following numbers are stored in an array A: (10)
   31, 52, 28, 84, 65, 24, 14, 56
   Apply Bubble sort algorithm to the array A and show each pass separately

8. Write the algorithm for post-order tree traversal. Also show the steps of this algorithm on a set of numbers to show an example. (10)

9. What are the applications of queue? Write an algorithm to create a doubly-linked list and also write a function to delete a node from doubly-linked list. (10)

www.scholarexpress.com

End