BCA – 14

I Semester B.C.A. Examination, Feb./March 2010
DATA STRUCTURES

Time: 3 Hours

Max. Marks: 80

Instructions: *1) Answer **all** questions in Part **A**, **6** out of **8** questions in Part **B**, and **3** out of **5** questions in Part **C**.*
*2) PART **A** : Questions from **1** to **8** carry **1** mark and **9** to **14** carry **2** marks each.*
*3) PART **B** : **Each** question carries **5** marks.*
*4) PART **C** : **Each** question carries **10** marks.*

PART – A

1) What is space complexity?

2) Define stack.

3) Define queue.

4) Give difference between static and dynamic variable.

5) What is linear search?

6) Define hashing.

7) What is tree?

8) How many comparisions required to sort N no's using selection sort ?

9) What are the drawbacks of linked list?

10) What is binary search tree?

11) Mention drawbacks of array.

12) Write any 2 applications on stacks.

13) Define Interpolation search.

14) What is nonlinear data structure ? Give example.

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PART – B

1) Construct binary search tree for 10,50,20,5,2,1,100.

2) Give difference between array and linked list.

3) Discuss tree sorting with example.

4) Give an example of radix sort.

5) Give an example with binary tree to insert a node between root and leaf node.

6) Give an example of bubble sort.

7) Explain how stack is used as a circular list.

8) Explain how queue represented in an array with basic operations.

PART – C

1) Write a C program to insert and delete a node from a single linked list.

2) Explain tree traversal technique with example.

3) Write a program for quick sort.

4) Write an algorithm for binary search and explain with an example.

5) Explain algorithmic notations with examples.

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