BS 43 (NS)

IV Semester B.Sc. (I.T.) Examination, June/July 2010
DATA STRUCTURES USING C++

Time : 3 Hours Max. Marks : 75

PART – A

Answer **all** questions : **(2×12+1×1=25)**

1. Define algorithm. What are the criteria that algorithm must satisfy ?
2. Describe the term data structure.
3. How can we create a hierarchical record ?
4. What is binary search ?
5. What is linked list ?
6. Compare the properties of arrays with linked list.
7. What is NULL pointer ?
8. List out the applications of stack.
9. List the applications of queue.
10. What do you mean by tree traversal ?
11. What do you mean by node ?
12. What do you mean multi way trees ?
13. List the properties of Red-Black tree.

P.T.O.

PART – B

Answer **any five** questions : **(10×5=50)**

1. Prepare table of all sorting technique along with their comparisons.
2. Write a C++ code to sort the linked list.
3. Write an algorithm to convert infix expression to postfix expression.
4. Explain PUSH and POP operations of stack.
5. Give examples of applications of queue, Dqueue and priority queue.
6. Does the traversal of BST give nodes in any specific order. Why or why not ?
7. Explain in detail what are the rules for insertions in a B-tree.
8. Write C++ code to find and replace a value in Binary Search Tree (BST).

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