Nepal College of Information Technology

**Unit Test**

Fall 2012

Program : BE IT Time : 2 hrs

Semester : (III) FM : 70

Subject : Data & File Structures PM : 35

* *Candidates are requested to give their answer as far as practicable in their own words.*
* *The figure in the margin indicates the full marks*
* ***Attempt ALL question***

1. Define ADT. Discuss static implementation of the polynomial and sparse matrix along with its drawback. 10

2. Define Stack as an ADT. Why Stack and Queue are called restricted list. Write algorithm to push the item in Stack. 10

3. What is infix, prefix and postfix expressions? Convert following expression to postfix with stack application. 10

**A + ( B + C – ( D / E ^ F ) \* G ) \* H**

4. Discuss different types of Queue. Write an algorithm to dequeue data in circular queue. 10

5. Define Linked List. Write an algorithm to insert item at the beginning of the linked list. 10

6. Define Contiguous list. Explain few advantages of linked list over contiguous list. 10

7. Write short note. (Any Two) 5x2=10

a) Concept of template in C++ with an appropriate example.

b) Absurd Condition in simple queue

c) Explain how linked list is represented in C++

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