

Roll Number: \_\_\_\_\_

*Thapar University, Patiala*

**Computer Science and Engineering Department**

BE (EC 4<sup>th</sup> SEM) Mid-Sem Test

CS048: Data structure & IT

March 11, 2010

Time: 02 Hours; MM: 25

Name of Faculty: Rinkle Aggarwal , Ajay Kumar

Instruction to Students:

Attempt all questions. Assume any missing data.

- Q 1. Define queue. Discuss the operations (insertion and deletion) on circular queue with algorithms and examples. (7)
- Q 2. Convert the following infix expression into the postfix expression. (4)  
 $X * M - (Y + (P + Q / (R - T) \uparrow 2) * S - G / H)$
- Q 3. Write the sequence of steps to insert a given item of information in a sorted (**descending**) circular header linked list. Explain your algorithm with the help of an example. (7)
- Q 4. Write an algorithm to arrange array elements in decreasing order using quick sort. Explain each and every step with the help of a suitable example with atleast 10 elements. (7)

268