Assignment I and II BCA 3rd Semester Due Date: Chaitra 20, 2080

Q1. Explain in detail the data structure and ADT. Show the status of stack while converting the following infix expression to postfix: P+Q-(R*S/T+U)-V*W. Also, show the stack operations for the evaluation of the postfix notation if the values are: P=10, Q=8, R=3, S=4, T=3, U=20, V=1 and W=3.

Q2. Describe stack ADT and application of this data structure. Write algorithms for all the relevant operations of stack with time complexities.

Q3. Define circular queue? How does circular queue overcome the limitations of linear queue? Explain.

Q4. What is a singly linked list? Write algorithms and c codes to add a node at the beginning and end of the linked list.

5. What is a recursive function? Explain with the help of two simple recursive functions. Write the algorithm and C code to implement ToH problem using recursion. Show the steps for solving three disks problem in ToH problem.