**Assignment-3**

Q.1 (a) Write an algorithm to delete Nth element from front of circular queue.

(b) Circular Queue is to be implemented using a array of 10 elements .Write the pseudo code for implementation of inserting an element in queue and checking whether queue is empty or not.

Q.2(a) Translate, infix expression into its equivalent postfix expression (using stack):

P: A\* (B+D)/E-F\*(G+H/K)

(b) Consider the following arithmetic expression P, written in postfix notation:

P : 12,7,3,-, /, 2,1,5,+,\*,+

Evaluate the infix expression.

Q.3 (a)Consider the following queue of characters, where QUEUE is a circular array

FRONT = 2, REAR = 4 QUEUE : \_\_\_,A, C, D, \_\_\_,\_\_\_

(For notational convenience, we use “\_\_” to denote an empty memory

cell.) Describe the queue as the following operations take place:

(a) F is added to the queue. (f) two letters are deleted.

(b) two letters are deleted (g) S is added to the queue.

(c) K,L and M are added to the queue. (h) two letters are deleted.

(d) two letters are deleted. (i) one letter is deleted

(e) R is added to the queue (j) one letter is deleted

(b) Write a program/algo to **reverse** a singly linked list.

Q.4(**a**) write a algorithm to count no of nodes in linked list.

**(b)** Write an algorithm which removes first element of a list add it to the end of linked list without changing information part.

Q.5 (a) Explain **PUSH()** and **POP()** operations used in stack with example.

(b) Write a pseudo code to delete a particular value from linked list

(c ) Write a algo to sort a linked list.