3. (a) What is 'deque' ? Discuss the implementation of deque in computer.

   (b) Suppose a deque is mentained by a circular array with N cells.

   (i) Suppose an element added to the deque. How is Left or Right changed ?

   (ii) Suppose an element in deleted. How is Left or Right changed ? 4+6

4. (a) What is linked list ? Discuss memory allocation and garbage collection related to linked list.

   (b) Suppose 'List is in the memory. Write an algorithm which delets the last node from the 'List'. 6+4

5. Suppose NAME1 is a one way list in memory. Write an algorithm which copies NAME1 into another list NAME2.

   [Delete from NAME1 and add to NAME2]. Use appropriate figure. 10

—— X ——

Ex./UG/M/GE-3/29/2019

INTER BACHELOR OF SCIENCE EXAMINATION, 2019

(2nd Year, 1st Semester)

MATHEMATICS

Computer Science

Paper : GE - 3

Time : 1 hr. 30 mins Full Marks : 30

Answer any ***three*** questions.

1. (a) Write an algorithm for 'Buble Sort'.

   (b) Using the algorithm find the n of comparisons and number of inter changes which sort alphabetically the six letters in 'PEOPLE'. 5+5

2. (a) Write an algorithm to transfer infix expression to its post fix equivalent.

   (b) Consider the following infix expression

   Q : A + (B * C – (D/E ↑ F) * G) * H.

   Simulate the algorithm to transform Q into its post fix equivalent P, indicating the positions of stack in each steps. 5+5