



**Royal University of Bhutan**  
**Gyalpozhing College of Information Technology**  
**ITS202: Algorithms and Data Structure**  
**Class Test - I : 20 Marks**  
**Date: 12-October-2020**



1. Find the number of exchanges/swaps and the number of comparisons done while sorting the characters in the String "EXAMQUESTION" using selection sort. **[1 \* 4 = 4]**
2. Write down the Best-Case and Worst-Case complexity of Selection Sort, Insertion Sort, Bubble Sort algorithms. **[1 \* 3 = 3]**
3. Fill the table with the appropriate values in a queue data structure: **[0.5 \* 10 = 5]**

Operations	Return Value	First<- Q <- Last
Q.enqueue("to")		
Q.enqueue("be")		
len(Q)		
Q.dequeue()		
Q.dequeue()		
Q.isEmpty()		
Q.dequeue()		
Q.enqueue("or")		
Q.enqueue("not")		
Q.first()		

4. Write down the algorithms and diagram with explanation of four operations in LinkedList data structure. **[2 \* 4 = 8]**