**IT LAB Assignment-1 (5 Marks)**

Performance of Quick-Sort with four different pivots for partitioning

Pivot-1: Choose the first element as pivot

Pivot-2: Choose randomly the pivot element

Pivot-3: Median of {First element, Middle element, Last element}

Pivot-4: Median of {n/4th element, middle element, 3n/4th element}

Performance of Merge-Sort

Input Array types:

1. Random integers in the range 0 to 10k ( k = 4,5,6,7)
2. Sorted array of (1)
3. Almost Sorted of (1). ( This can be obtained by swapping 1% pairs of the sorted array)

Implement Quick\_Sort(Array, Size\_of\_Array, Pivot\_type)

Implement Merge\_Sort(Array, Size\_of\_Array)

Report the time taken by all the four versions of Quick\_Sort and Merge\_sort on the input array as specified above.