CSE 133
(Data Structure)   **Marks-25**

1. Sort the sequence 8, 1, 4, 1, 5, 9, 2, 6, 5 by using Mergesort   -4

2. Given an array containing the digits 71808294, show how the order of the digits changes during each step of   - 4+4+5

      [a] insertion sort,

      [b] selection sort,

      [c] quicksort (always choosing the last element of any subarray to be the pivot)

 Show the array after each swap, except in insertion sort. For

    insertion sort, show the array after each insertion.

3. Why do we need searching algorithms? -3

4. Write the pseudocode of binary search algorithm. -4

5. What is the worst-case time for quicksort to sort an array of n elements?-1

        ○ A. O(log n)
        ○ B. O(n)
        ○ C. O(n log n)
        ○ D. O(n²)