Lab Evaluation 1
Tuesday (9-11)

Max Time: 50 Mins **Max Marks: 10**

Set A(ODD Numbered System)

Q1.

Given an array of positive integers (consisting of min 15 numbers). Write an efficient program that finds out the k-min elements. User will enter the value of k. Display the input and output. **[5 marks]**

Q2. Given a set of n integers, design an optimized solution to find the highest element that can be made from k digits.

Eg:

Input array : [1,7,3,8,2,9]
k =3
highest number : 987 **[5 marks]**

Set B (Even Numbered System)

Q1. Given a gene expression (string as the input of max length 15). Write an efficient program that sorts the string in ascending order. [4 marks]

i/p: ABCABBCDABAAAAA
o/p: AAAAAAAABBBBCCD

Analyze and mention the algorithm by their complexity using asymptotic analysis.

Q.2 . Given that there are two sets of digits, A, & B. Now take a number (consisting of multiple digits) as input from the user. Write an algorithm to find if this number is formed by combining digits from these two sets. 6 marks]
Eg:
A={1,3,2}, B={4,0,5,7}
Input: n=23 Output: False
Input: n = 201 Output: True
Input: n = 35791 Output: False

(a) Code your algorithm.
(b) Present the Asymptotic analysis of your algorithm to prove that your code is **optimized**.