Dhirubhai Ambani Institute of Information & Communication Technology
First In Semester Examination, Autumn Semester 2017-2018

Course Title	**IT110 Introduction to Programming Lab**	**Max Marks**	**20**
Date	**27th Oct 2017**	**Time**	**120 mins**

Group 1

For each of the problems given below write C program. You need to submit 6 files in total, 3 program files (*.c files) and 3 files for captured input & output (text files)
For Problem 1: EnrollmentNo_Problem1.c (e.g. 201701500_Problem1.c) and captured output as EnrollmentNo_Problem1.txt (e.g. 201701500_Problem1.txt)
Similarly for Problem 2 and Problem 3, submit C program files and captured output files.

Q1 – 5 marks

Write a program to read a character which are in ascending order by their respective ASCII value i.e. the ASCII value of previous character entered must be smaller than the current character ASCII value. If current character ASCII value is smaller than or equal to the previous character ASCII value then stop reading (e.g. user enters a, d, f, i, m, c one after the other, since ASCII of 'm' > ASCII of 'c' program must stop reading further)

Q2 – 5 marks

Write a program to calculate the sum of the series of the form:

$\sum_{i=1}^{2n} i^2 - \sum_{i=1}^{n} (2i)^2$ Where value of n is provided by user

Q3 – 10 marks

Find the compatibility difference between 2 arrays. Compatibility difference is defined as difference in the frequency of each number e.g.

Input : a1[5] = {3, 1, 3, 2, 5} and a2[5] = {3, 2, 4, 1, 5}

Considering frequency of all the values in each of two arrays and comparing them

For a1: 1→1, 2→1, 3→2, 4→0, 5→1

For a2: 1→1, 2→1, 3→1, 4→1, 5→1

Frequency of value 3 and 4 does not match, therefore compatibility difference = 2