 **COMSATS University Islamabad, Lahore Campus**

**CIIT, Defence Road, Off Raiwind Road, Lahore**

***Assignment # 1***

***Microprocessor & Assembly Language***

***Due date 25-05-2023***

The following method can be used to generate random numbers in the range 1 to 32767.

Start with any number in this range.

Shift left once.

Replace bit 0 by the XOR of bits 14 and 15.

Clear bit 15.

Write the following procedures:

1. A procedure READ that lets the user enter a binary number and store it in AX.
2. A procedure RANDOM that receives a number in AX and returns a random number in AX.
3. A procedure WRITE that displays AX in binary. You may use the algorithm given in section 7.4.

Write a program that displays a '?', calls READ to read a binary number, and calls RANDOM and WRITE to compute and display 100 random numbers. The numbers should be displayed four per line, with four blanks separating the numbers.