National University of Computer and Emerging Sciences, Lahore Campus

Course:	Computer Org & Assembly Lang Lab	**Course Code:**	EL213
Program:	BS(Computer Science)	**Semester:**	Fall 2018
Duration:	30 Minutes	**Total Marks:**	10
Paper Date:	10-Oct-18	**Weight**	5%
Section:	R	**Page(s):**	1
Exam:	Quiz-I		

Instruction/Notes:

Question 1:

You are given a 16-bit number in ax register and an 8-bit number in bl register. The 8-bit number given in bl register can only have the values within the range of 0-15. You have to write a program that will check that the number stored in bl is found in which **nibble (4-bit group)** of the 16-bit number stored in ax and then save a value in dx according to mentioned guidelines:

- If the number stored in bl is found in 1st nibble (0-3 bits) of ax, then dx=1
- If the number stored in bl is found in 2nd nibble (4-7 bits) of ax, then dx=2
- If the number stored in bl is found in 3rd nibble (8-11 bits) of ax, then dx=3
- If the number stored in bl is found in 4th nibble (12-15 bits) of ax, then dx=4
- For any other case, dx=0

Note: The count of bits start from 0 at LSB and goes upto 15 at MSB in a 16-bit number

Example:

Let ax=0111101011001001b

- **If bl=00000111b then dx=4**
- **If bl=00001010b then dx=3**
- **If bl=00001100b then dx=2**
- **If bl=00001001b then dx=1**
- **If bl is any other number, then dx=0**