

**Quiz # 01**

**Course Title:** Peripherals, Interfacing & Embedded Systems  
**Course ID:** CSE - 4619

**Total Marks:** 15

**Time:** 25 Mins.

**Student Id:** .....

**Obtained Marks:** .....

- .....
- Q1.** What are the main reasons to use microcontroller? What is the maximum clock speed for 05  
ATMega16 and how it can be implemented at ATMega16 microcontroller?
- Q2.** Suppose, you are given an analog quantization size of 0.75 Volt, where  $V_{\min}=0$  Volt and 05  
 $V_{\max}=12$  Volt. Calculate the desired number of bits for an A/D converter.
- Q3.** Suppose, it is given  $V_{\text{in}} = 0.75$  Volt,  $V_{\text{ref}} = 1$  Volt and 8-bit of resolution for a Successive 05  
Approximation A/D converter. Find a 8-bit digital output for the given  $V_{\text{in}}$ .
- .....