

Fig. 9.8 Setup used to record the step response of the system

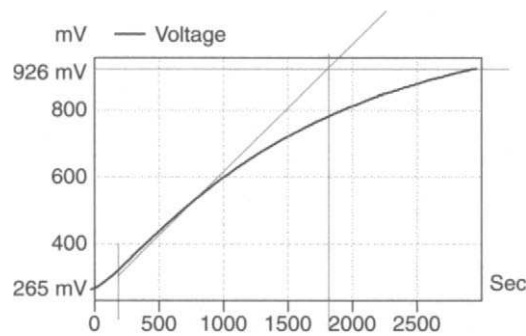


Fig. 9.9 Open-loop step response of the system

9.5 Pulse width output of the microcontroller

PIC16F877 microcontroller provides two PWM outputs, known as CCP1 (Pin 17) and CCP2 (Pin 16). The PWM output CCP1 is controlled using Timer 2 and registers PR2, T2CON, CCPR1L, and CCP1CON.

The period of the PWM output CCP1 is set by loading a value into register PR2 and then selecting a clock multiplier value of either 1, 4, or 16. Equation 9-9