ENGR 210. Introduction to Circuits and Instruments (4)

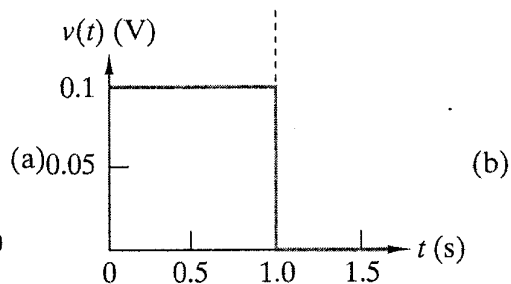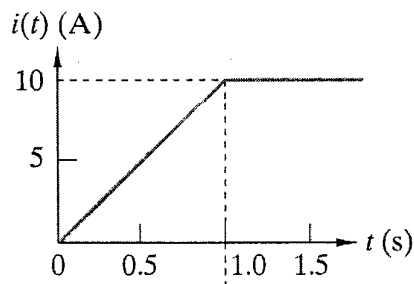**Quiz No. 9**   11/7/03

Name (*Section*): _Solutions_ .

PUT ANSWERS IN THE SPACE PROVIDED AND SHOW YOUR WORK

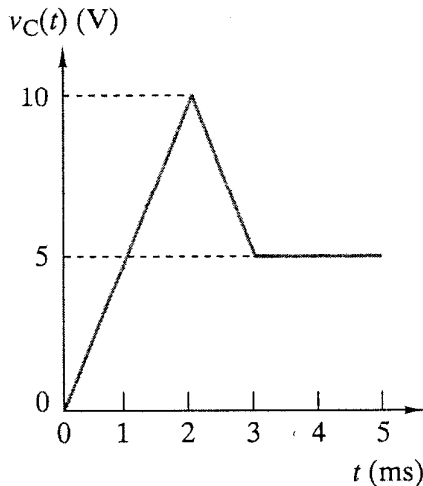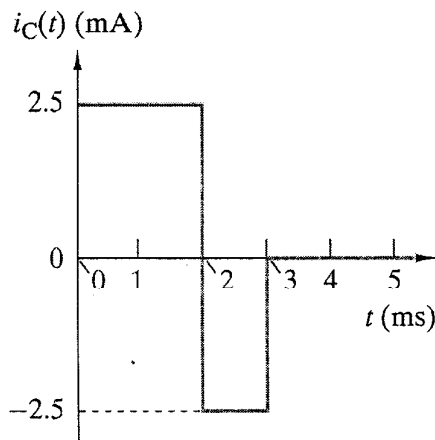**Problem 1** (10 points)

A particular element is tested and found to have i(t) and v(t) as shown here. Identify the type of element and its value.

Type = _Inductor_   Value = _10 mH_

A second element is tested and found to have i(t) and v(t) as shown below. Identify the type of element and its value.
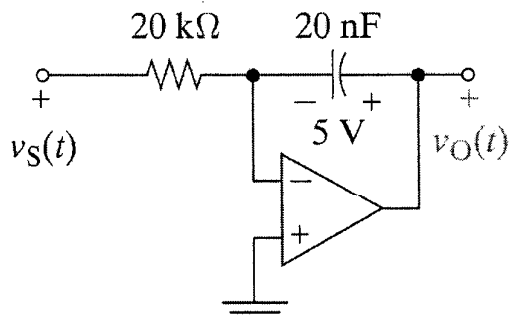

Type = _Capacitor_ .   Value = _0.5 μF_
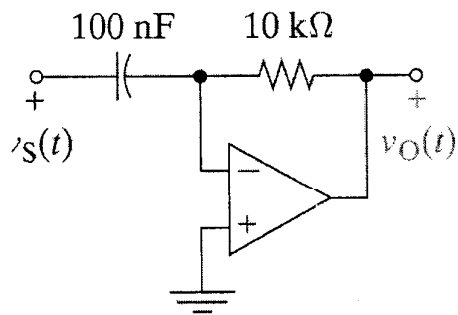
Problem 2 (10 points)
    Write the expression for $v_o(t)$ for each of these circuits.

$$v_o(t) = \underline{5 - 2500 \int_0^{\star} v_S(t)\,dt}, \quad t > 0$$

$$5V - \frac{1}{RC}\int_0^{\star} v_S(t)\,dt\ \bigg)$$

$$v_o(t) = \underline{-\ \frac{1}{1000}\ \frac{d\,v_S(t)}{dt}}$$

$$-(RC)\frac{d}{dt}\,v_S(t)\ \bigg)$$