

Chapter 6, Solution 80.

From the given circuit,

$$\frac{d^2 v_o}{dt^2} = f(t) - \frac{1000k\Omega}{5000k\Omega} v_o - \frac{1000k\Omega}{200k\Omega} \frac{dv_o}{dt}$$

or

$$\frac{d^2 v_o}{dt^2} + 5 \frac{dv_o}{dt} + 2v_o = f(t)$$