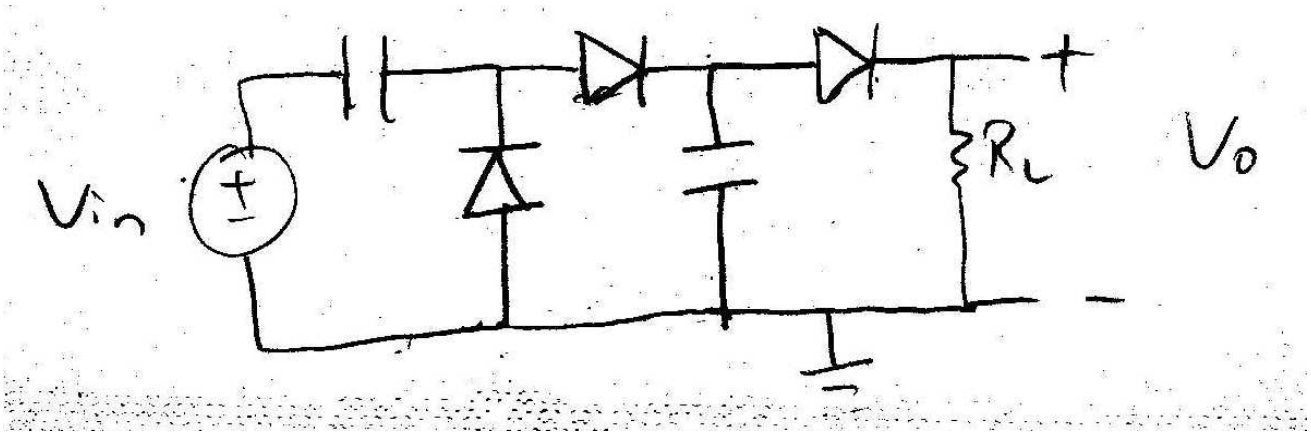
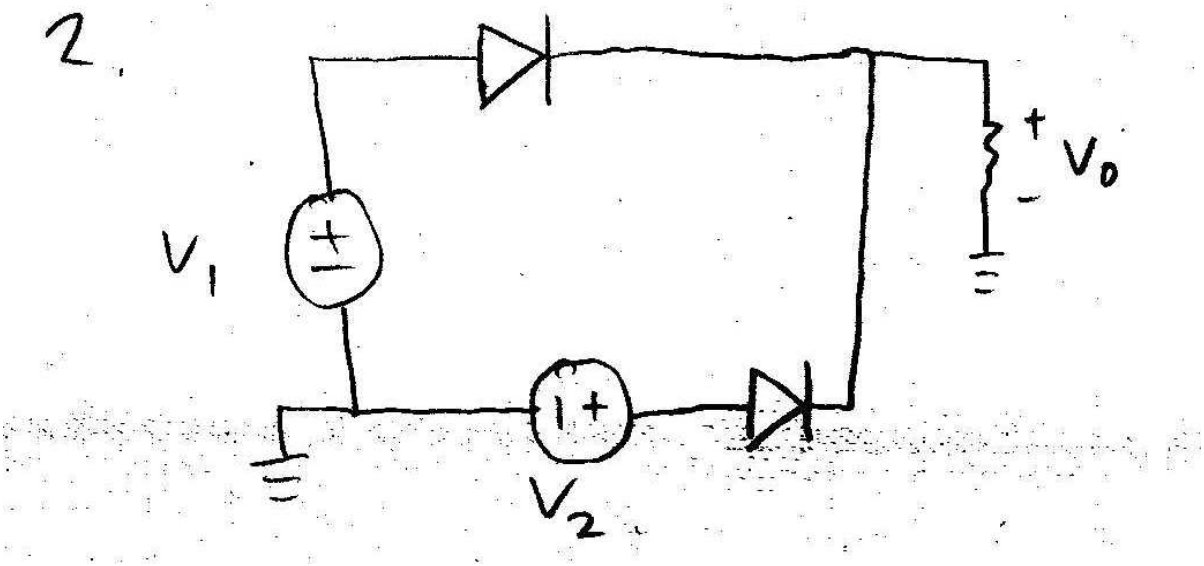
1.



Graph the output $V_0(t)$. Don't forget units. Assume large capacitance values and ideal diodes.
$V_{in}(t) = A\sin(w_0 t)$

2.



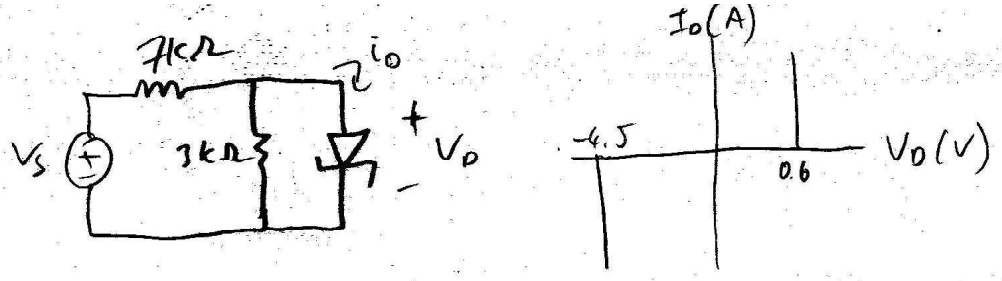
Assume all diodes have $V_T = 0.6V$

$V_1(t) = 5\cos\left(2\pi t - \frac{1}{4}\right)$

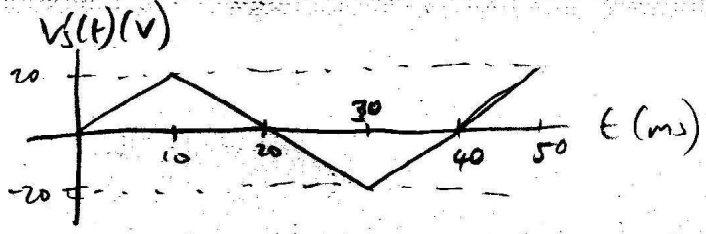
$V2(t) = 4\sin(2\pi t) + 1$

Graph $V_0(t)$

3.



a) For V_s as follows, mark the regions in which the diode is turned on



b) Sketch $V_D(t)$. Label axes, break points, and all relevant values of importance.

c) What is the value of current through the 7kΩ resistor when $V_s = 5V$? $-4V$? $-25.5V$?

4. Using only capacitors, resistors, ideal diodes, and a voltage source of $\sin(2\pi t)$, build a circuit that can generate the following waveform.