General Sir John Kotelawala Defense University

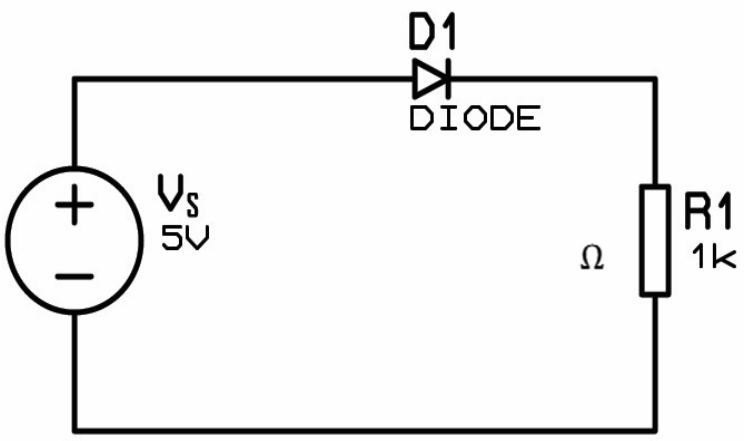
Basic Electronics

Tutorial 1

Diode Circuit

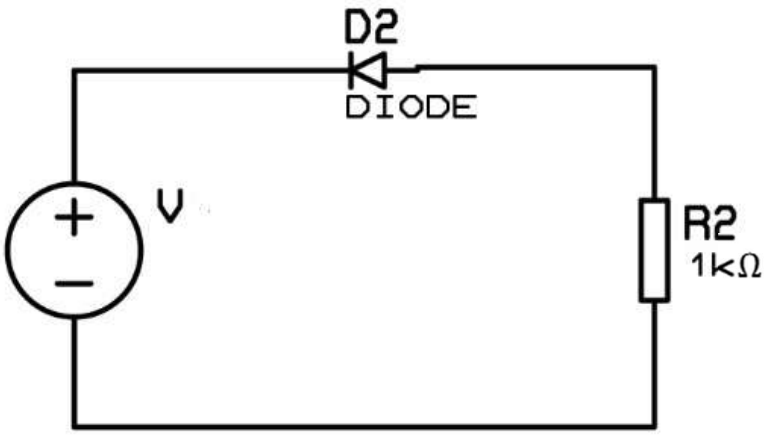
Diode Approximation:

1. Let's assume the diode resistance is negligible.



a. Assume the diode is silicon and find the current across the circuit.
b. If the Vs = 0.5 v find the current across the circuit when,
   - the diode is Germanium
   - the diode is Silicon

2. Find the current across the circuit



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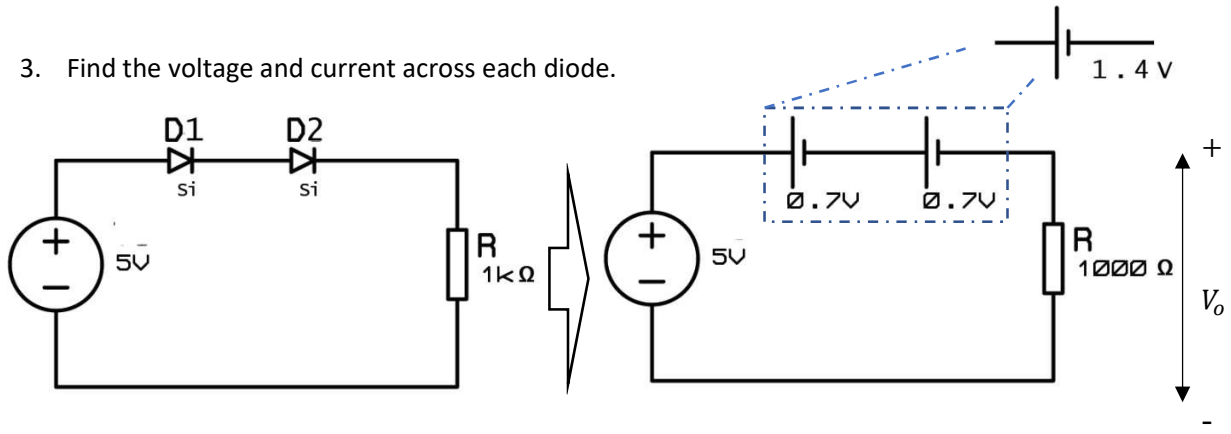
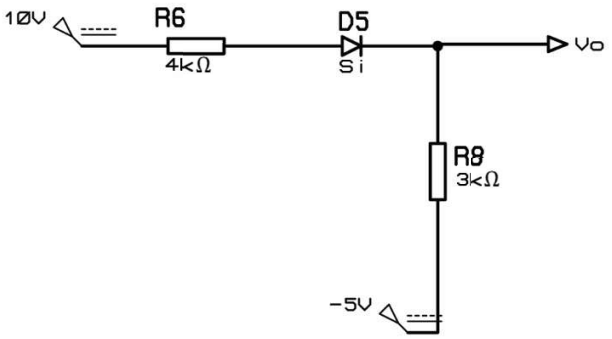
3. Find the voltage and current across each diode.

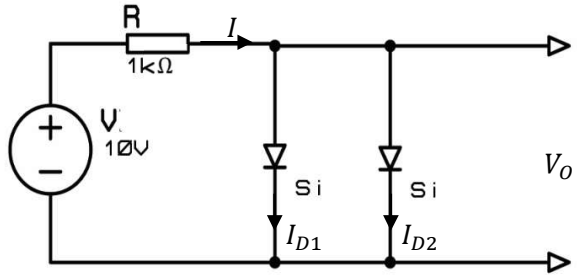


4.



Find V_1, V_2 *and* V_D ?

5.



Find V_D, current I, I_{D1} & I_{D_2} for the given circuit.

$I = I_{D1} + I_{D2}$

Assume diodes are identical

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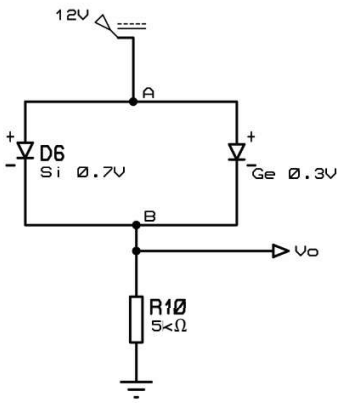
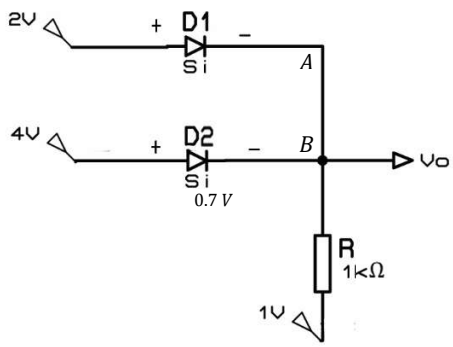
6.



Find the output voltage (V_o) ?

7.

Find output voltage V_0.



Assume both the diodes are conducting simultaneously.