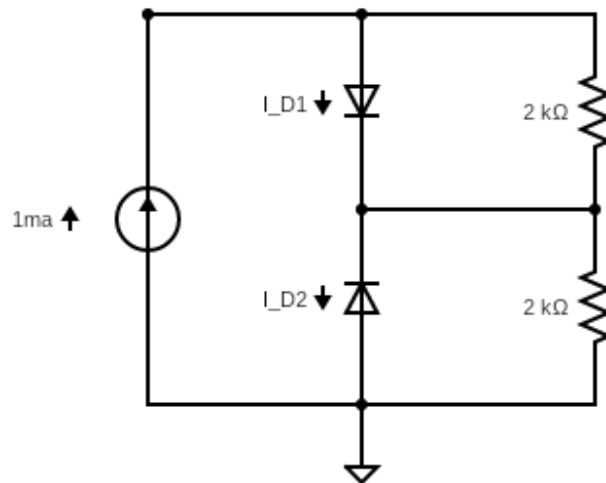
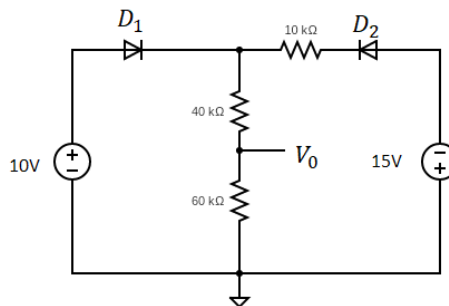


EE1100#– Basic Electrical Engineering
 March – June 2023
 Tutorial 9 – Diodes & Operational Amplifiers

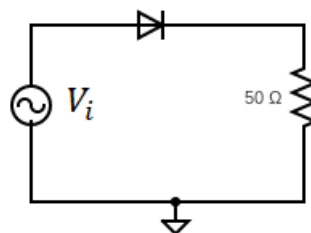
1. Assume that diodes D_1 and D_2 are ideal. Determine the diode currents (i) I_{D1} and (ii) I_{D2}



2. Assume the diodes are ideal in the given circuit. (i) What are the states of the two diodes D_1 and D_2 . (ii) Determine the voltage V_0 .



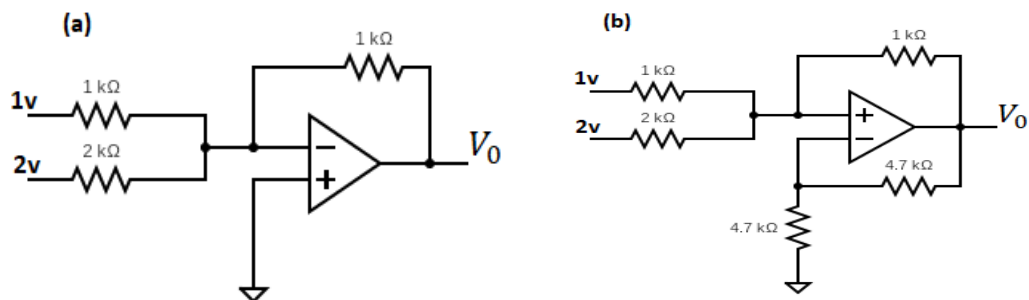
3. Assume the diode in the circuit to be ideal and calculate the V_{avg} and I_{avg} .
 $V_i = 100\sin(\omega t)$



4. Calculate the common-mode gain of an operational amplifier with a differential gain of 6×10^4 and Common-mode rejection ratio (CMRR) of 80 db.

2 marks

5. Determine V_0 for (a) and (b).



6. Determine V_0 for (a) and (b).

$$V_i = 25\sin(\omega t)$$

