



Universidad Tecnológica de Torreón

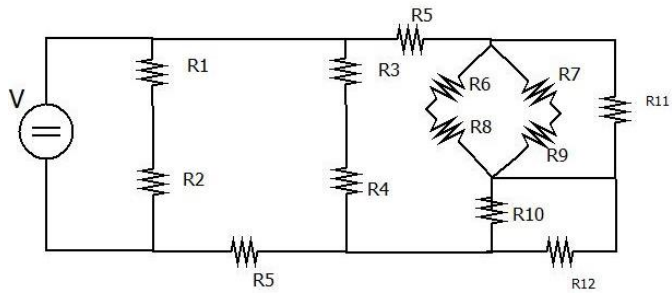
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# PRINCIPIOS PARA IOT

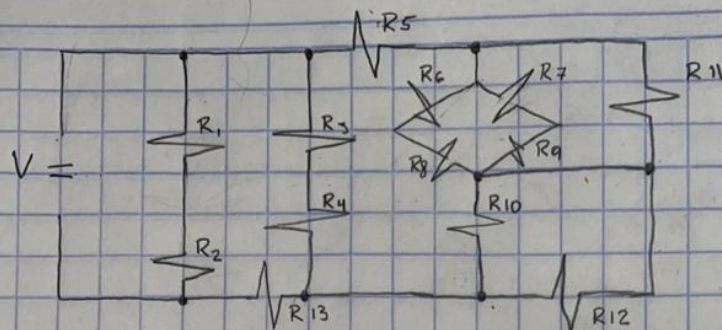
Ing. DAVID OCHOA DEL TORO  
TDSM – 4”B”

Lucero Alhely Barraza Cedillo

**Circuito 2**



No Resistencia	R	I	V
1	10K	0.7692	7.643
2	5.6K	0.7692	4.357
3	6.7K	1.0714	4.1017
4	4.5K	1.0714	7.8983
5	5.7K	0.9024	5.144
6	3.7K	0.7643	2.8279
7	15K	0.6122	9.183
8	12K	0.7643	9.1716
9	4.6K	0.6122	2.817
10	3.6K	3.3333	6.5362
11	2.7K	4.4444	3.9429
12	2.1K	5.7142	7.1949
13	5.7K	2.1052	3.4899
<b>Total</b>	<b>6.3572K</b>	<b>1.8876A</b>	<b>12V</b>



# RESISTENCIA

1	10 K
2	5.6 K
3	6.7 K
4	4.5 K
5	5.7 K
6	3.7 K
7	15 K
8	12 K
9	4.6 K
10	3.6 K
11	2.7 K
12	2.1 K
13	5.7 K

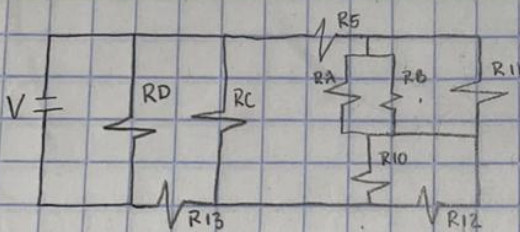
SERIE

$$R_A = R_6 + R_8 = 15.7 \text{ K}$$

$$R_B = R_7 + R_9 = 19.6 \text{ K}$$

$$R_C = R_3 + R_4 = 11.2 \text{ K}$$

$$R_D = R_1 + R_2 = 15.6 \text{ K}$$



$$R_E = 1 / (1/R_{10} + 1/R_{12}) = 1.3266 \text{ K}$$

$$R_F = 1 / (1/R_A + 1/R_B) = 8.7260 \text{ K}$$

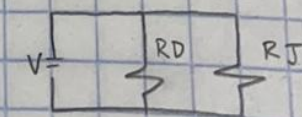
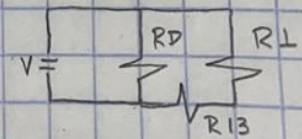
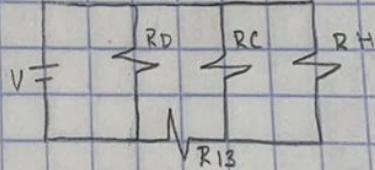
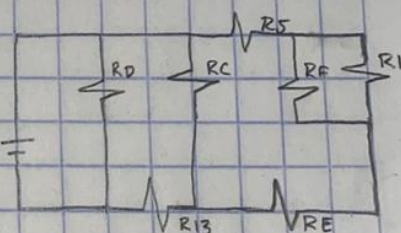
$$R_G = 1 / (1/R_F + 1/R_{11}) = 2.0622 \text{ K}$$

$$R_H = R_5 + R_G + R_E = 9.0888 \text{ K}$$

$$R_I = 1 / (1/R_C + 1/R_H) = 5.0200 \text{ K}$$

$$R_J = R_I + R_{13} = 10.72 \text{ K}$$

$$R_T = 1 / (1/R_D + 1/R_J) = 6.3572$$



$$I_T = \frac{V_T}{R_T}$$

$$I_T = \frac{12}{6.3572}$$

$$I_T = 1.8876$$

$$I_A = \frac{12}{15.7} = 0.7643$$

$$I_B = \frac{12}{19.6} = 0.6122$$

$$I_C = \frac{12}{11.2} = 1.0714$$

$$I_D = \frac{12}{15.6} = 0.7692$$

$$I_5 = \frac{5.144}{5.7} = 0.9024$$

$$V_1 = R_1 * I_1 = 7.643$$

$$V_2 = 12 - 7.643 = 4.357$$

$$V_3 = R_3 * I_B = 4.1017$$

$$V_4 = R_4 * I_B = 2.7549$$

$$V_5 = 12 - 4.1017 - 2.7549 = 5.144$$

$$V_6 = R_6 * I_A = 2.8279$$

$$V_7 = R_7 * I_B = 9.183$$

$$V_8 = R_8 * I_A = 9.1716$$

$$V_9 = 12 - 9.183 = 2.817$$