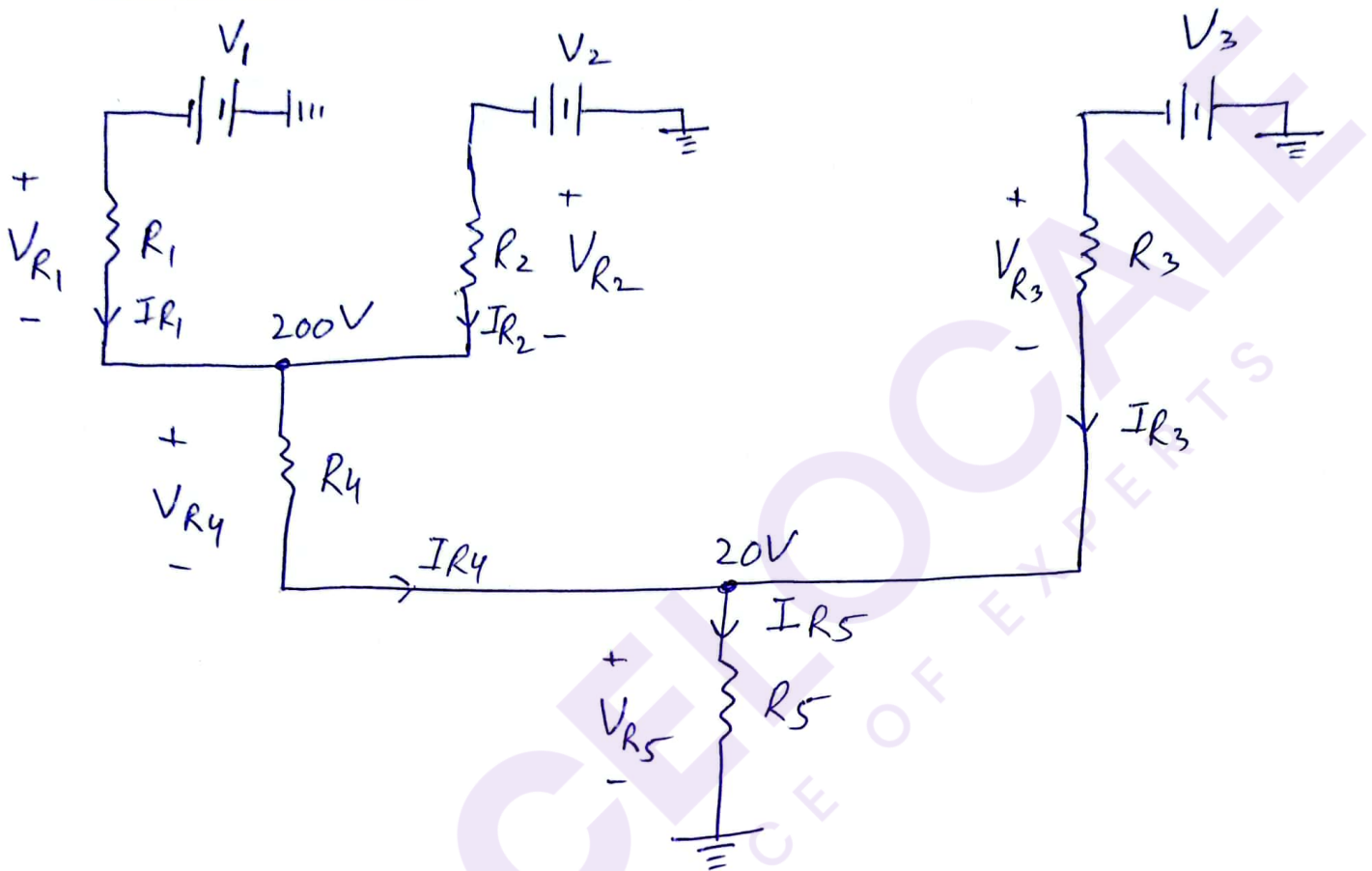


Circuit Design :



It can be seen that:

$$V_{R4} = 200V - 20V = 180V$$

$$\text{Let, } I_{R4} = \frac{I_{R5}}{2} = 1mA$$

$$\text{So, } V_{R4} = (R_4)(I_{R4})$$

$$\Rightarrow R_4 = \frac{V_{R4}}{I_{R4}} = \frac{180}{1mA} = \boxed{180 K\Omega}$$

$$\text{Also, } R_5 = \frac{20}{I_{R5}} = \frac{20}{2I_{R4}} = \frac{20}{2\text{mA}} = \boxed{10\text{K}\Omega}$$

Using KCL :

$$I_{R4} + I_{R3} = I_{R5}$$

$$\Rightarrow I_{R3} = I_{R5} - I_{R4} = 2\text{mA} - 1\text{mA} = 1\text{mA}$$

$$\text{Also, } I_{R1} + I_{R2} = I_{R4}$$

$$\Rightarrow I_{R1} + I_{R2} = 1\text{mA}$$

$$\text{Let, } I_{R1} = 0.25\text{mA}$$

$$\Rightarrow I_{R2} = 1 - 0.25 = 0.75\text{mA}$$

Using the current values

$$\Rightarrow R_1 = \frac{-V_1 - 200}{I_{R1}} = \frac{-V_1 - 200}{0.25\text{mA}}$$

$$\text{Let, } \boxed{V_1 = -300\text{V}}$$

$$\Rightarrow R_1 = \frac{-(-300) - 200}{0.25\text{mA}} = \boxed{400\text{K}\Omega}$$

similarly,

$$\Rightarrow R_2 = \frac{-V_2 - 200}{0.75\text{mA}}$$

$$\text{Let, } V_2 = -250\text{V}$$

$$\Rightarrow R_2 = \frac{-(-250) - 200}{0.75\text{mA}} = \boxed{66.67\text{K}\Omega}$$

Same goes for I_{R_3} :

$$I_{R_3} = \frac{V_3 - 20}{R_3}$$

$$\Rightarrow \frac{V_3 - 20}{1\text{mA}} = R_3$$

Let, $V_3 = 100\text{V}$

$$\Rightarrow R_3 = \frac{100 - 20}{1\text{mA}} = 80\text{k}\Omega$$

