

CC.

- a) Determine o valor da corrente  $I_B$ . Considere  $V_{BE} = 0,7V$ .
- b) Determine o ponto de operação ( $V_{CE}$ ,  $I_C$ ).  
Ganho de corrente:  $\beta = \frac{I_C}{I_B}$ .
- c) Qual o valor da tensão  $V_{CB}$ ?

Obs: Modo CC!

Que seja a entrada = CC

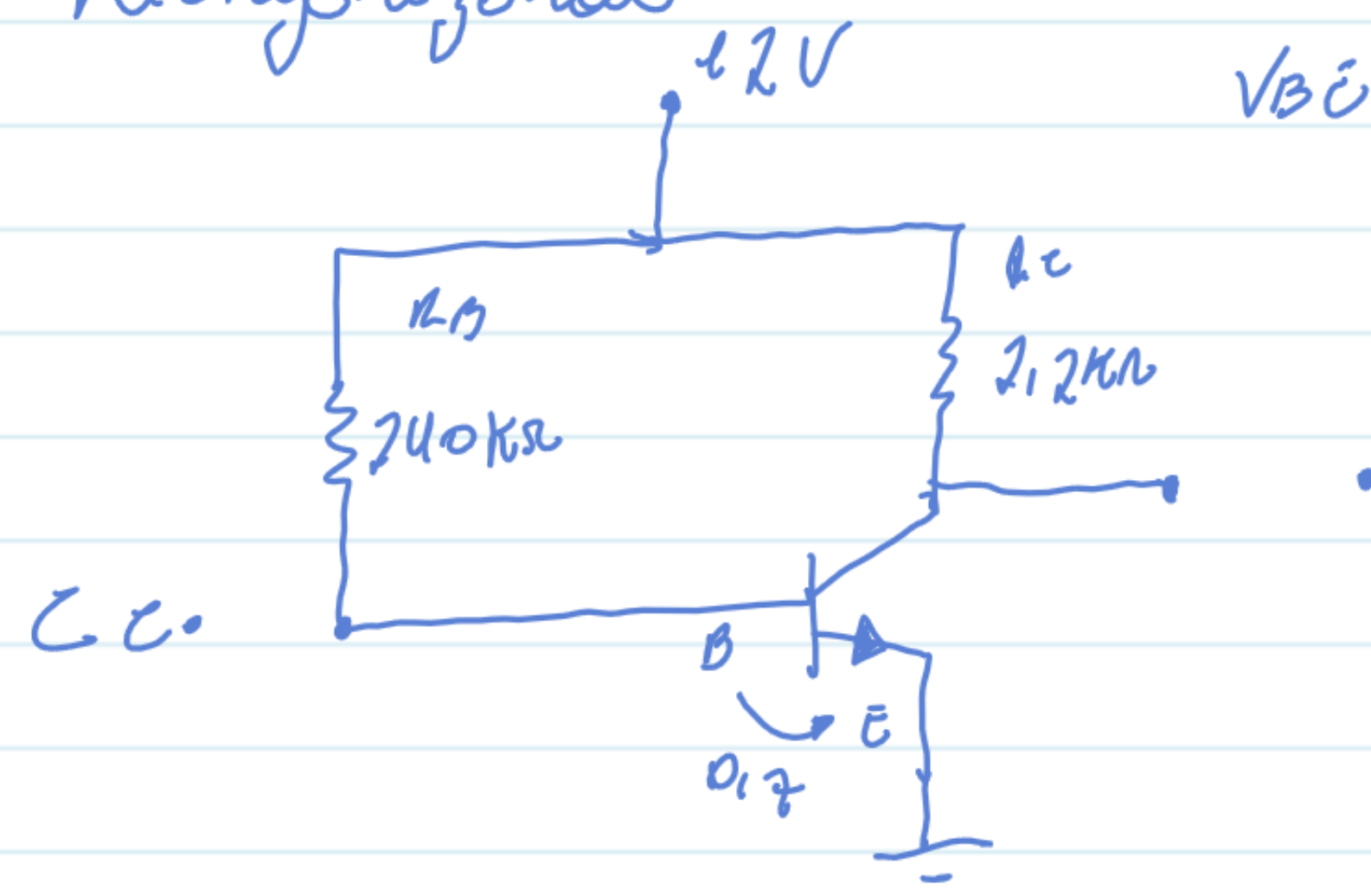
\* Capacitor  $\rightarrow$  chave aberta, impedância alta!

$$X_C = \frac{1}{\omega C} \Rightarrow X_C = \frac{1}{2\pi f}$$

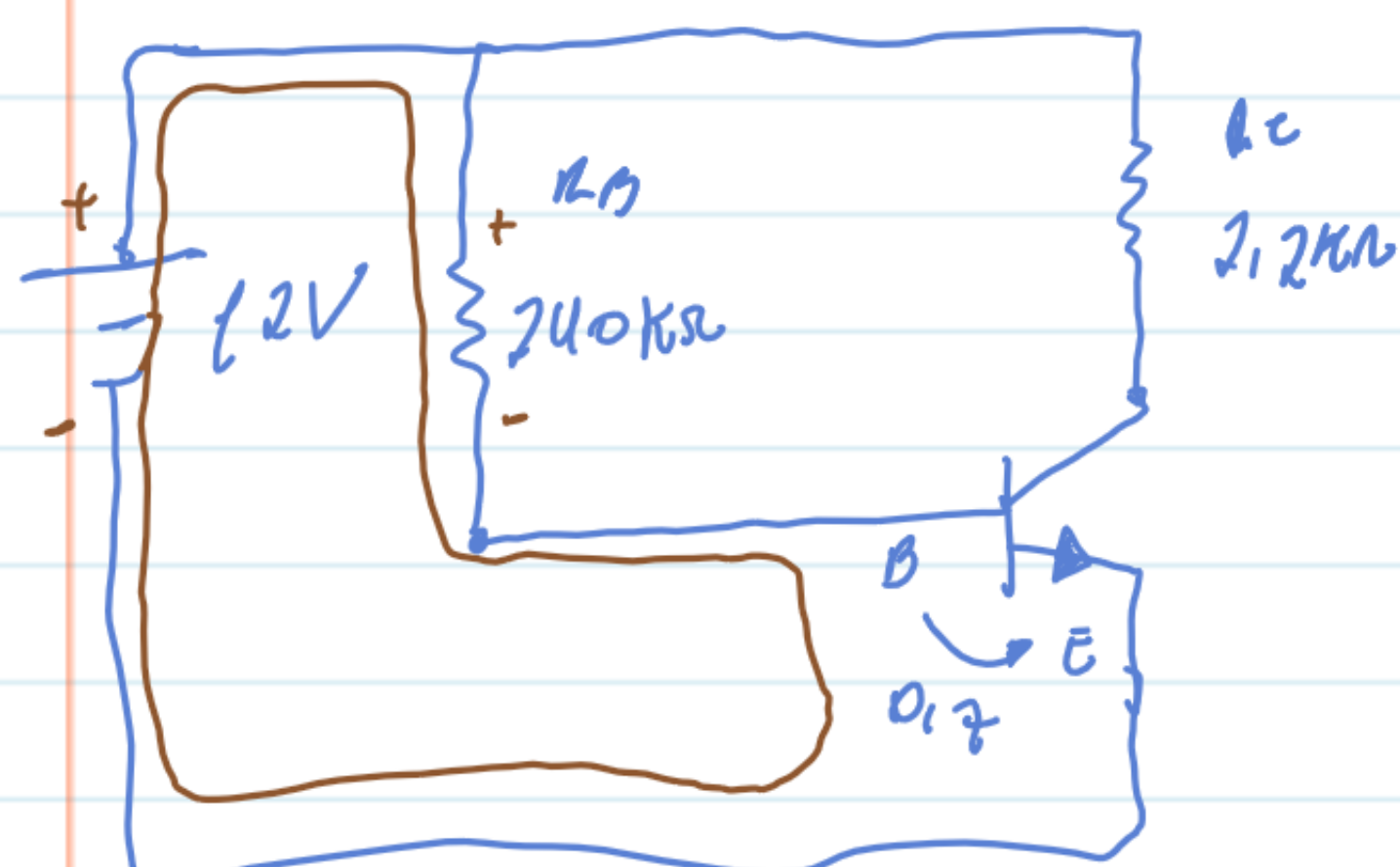
Corrente CC  $\rightarrow f = 0$ 

$$\frac{1}{2\pi f} \rightarrow \infty \text{ n.k.} \rightarrow 0$$

horizontalizado



Reduzido:

LKT  $\rightarrow$  Lei do Kirchhoff das Tensões  
Soma das TÊN. = 0  $\rightarrow$  Malha

a)

Obs.  $R \rightarrow k\Omega$ ,  $V \rightarrow V \rightarrow I = mA$ 

$$12 - 240 I_B - V_{BE} = 0$$

$$12 - 240 I_B - 0,7 = 0$$

$$I_B = \frac{11,3}{240} \quad 0,047 \text{ mA} \rightarrow 47,0 \mu A$$

b)

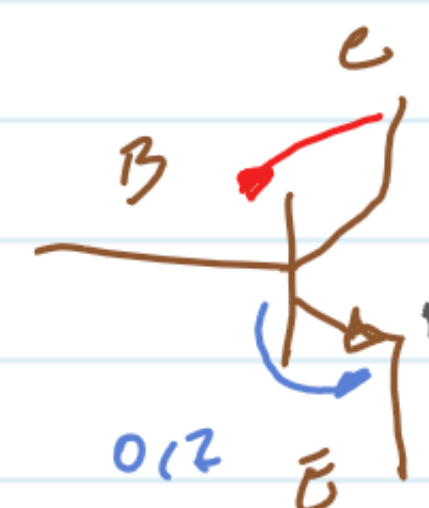
$$\beta = \frac{I_C}{I_B} = I_C = \beta \cdot I_B$$

$$\beta = 50 \Rightarrow I_C = 50 \cdot 0,047 \text{ mA}$$

$$I_C = 2,35 \text{ mA}$$

c)

$$V_{CE} = V_{BE} + V_{CB}$$

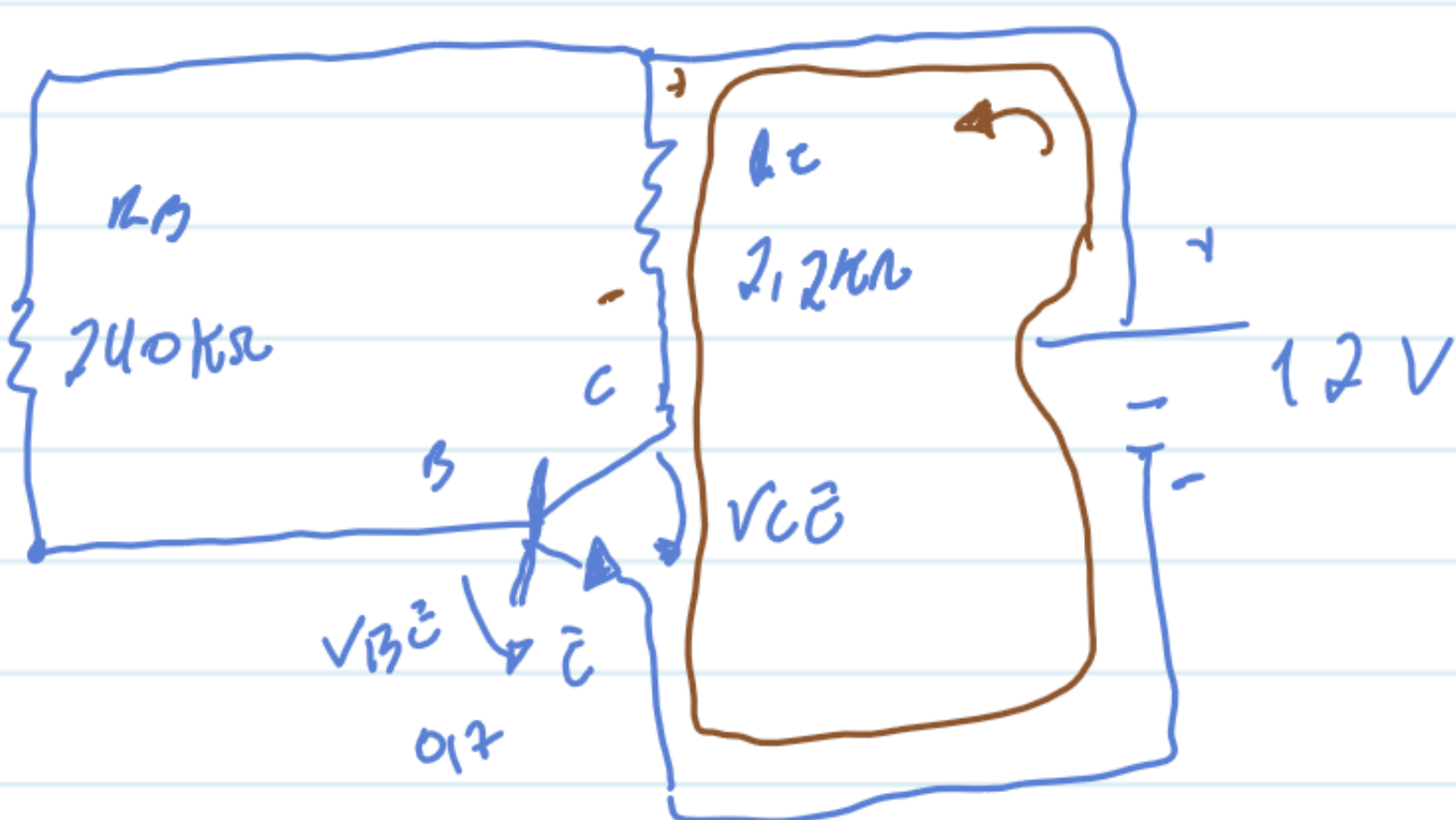


$$V_{CB} = V_{CE} - V_{BE}$$

$$V_{CB} = V_{CE} - 0,7$$

$$V_{CB} = 6,83 - 0,7$$

$$V_{CB} = 6,13$$

 $V_{CE}$ : ?? LKT

$$12 - 2,2 \cdot I_C - V_{CE} = 0$$

$$12 - 2,2 \cdot 2,35 - V_{CE} = 0$$

$$12 - 5,17 = V_{CE}$$

$$V_{CE} = 6,83V$$

$$\text{Ponto OP: } V_{CE} = 6,83V$$

$$I_C = 2,35 \text{ mA}$$

Obs  $\rightarrow$  Ind,  $k\Omega \rightarrow VV$