

b. Se supone  $CLK = 14.7456 \text{ MHz}$

$$T_{cy} = \frac{T_{osc}}{4} = 3.3 \text{ MHz}$$

$$t_{cy} = 271 \text{ ns}$$

$$4 \text{ ciclos } nop \rightarrow 1.08 \mu\text{s}$$

Propongo 6 ciclos como solución por ser 1 μs mínimo.

```
reset: mov r3, #0x1
      nop
      nop
      nop
      nop
      nop
      nop
      mov r3, #0x0
```

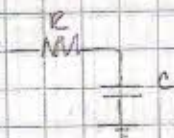
loop: b loop.

\* En caso de necesitarse mas ciclos se puede usar una subrutina, pasando a un reg la cantidad de ciclos nop necesarios.

mov r3, #100 //ejemplo

```
demora: nop
        sub r3, r3, #1
        bne demora;
```

2. Idem circuito ejer 2 exam 14/3/6



$$\tau = R \cdot C = 5 \text{ ms } \text{ ó menor}$$

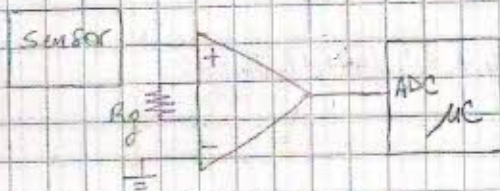
$$\text{si elijo } R = 47 \text{ k}\Omega \Rightarrow C = 0.1 \mu\text{F}$$

$$3. \quad R_{es} = 0.05^\circ\text{C} \times \frac{80 \mu\text{V}}{^\circ\text{C}} = 4 \mu\text{V}, \quad V_{isb} = \frac{V_{ref}}{2^N} = \frac{3.3\text{V}}{2^{10}} = 3.22 \text{ mV}$$

$$G = \frac{V_{isb}}{R_{es}} = \frac{3.22 \text{ mV}}{4 \mu\text{V}} = 805$$

$$G = 1 + \frac{50 \text{ k}\Omega}{R_g} \Rightarrow R_g = \frac{50 \text{ k}\Omega}{G-1}$$

$$R_g = 62 \Omega$$



$$E \leq 0.1\% \rightarrow G = 1 + \frac{50 \text{ k}\Omega}{R_g + \Delta R} \Rightarrow E \gg \Delta R \Rightarrow \text{tolerancia } 0.01\%$$