TATU BOGDAN
CTI - ENG 2020

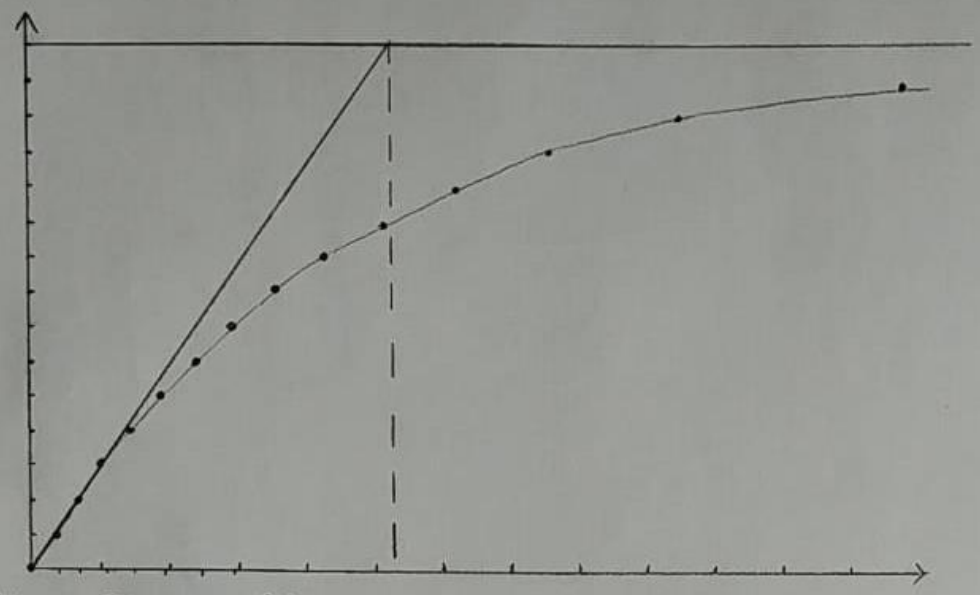
LAB 5 - 15.05.2020

Group 3.1
G = 3 N = 10
=> R = 30 kΩ
C = 13 μF

$U_0 = 15V$ $R = 100\,k\Omega$ $C = 470\,\mu F$

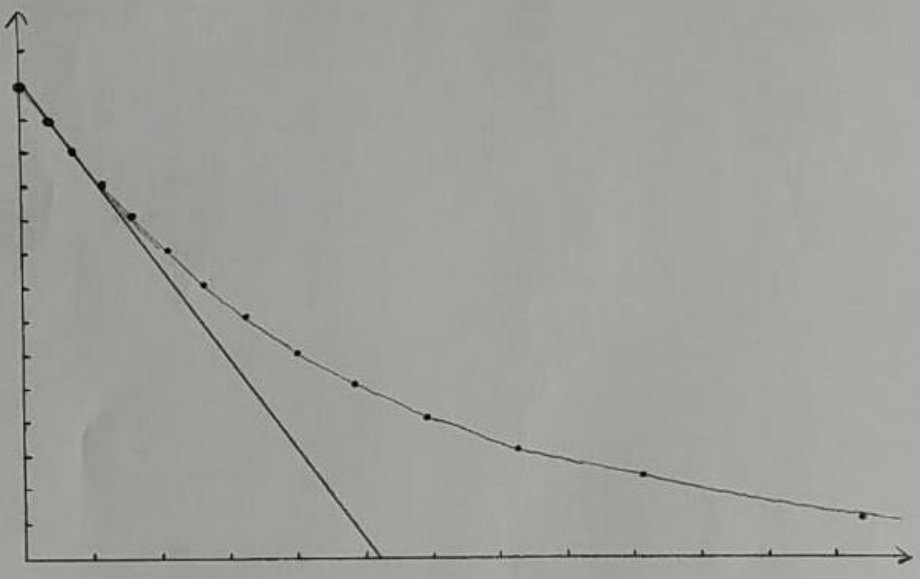
1. $\tau_{th} = R \cdot C = 47\,s$

2.



$\tau_{ch} = 52\,s > \tau_{th}$

3.



$\tau_{disch} = 51\,s > \tau_{th}$

$\tau_{disch} \approx \tau_{ch}$

4. $T = \frac{1}{f} = 0.002\ s = 2\ ms$

5. $R = 3 \cdot 10 = 30\ K\Omega$

$C = 13\ \mu F$

$R_{tp} = \frac{R \cdot R}{R+R} = \frac{R^2}{2R} = \frac{R}{2} = 15\ K\Omega$ $\quad R_{ts} = R + R = 60\ K\Omega$

$C_{ts} = \frac{C \cdot C}{C+C} = \frac{C}{2} = 6.5\ \mu F$ $\quad C_{tp} = C + C = 26\ \mu F$

6. R_{tp} ; C_{ts}

$\tau_{ps} = R_{tp} \cdot C_{ts} = 97.5\ ms$

$= 9.75 \cdot 10^{-2}\ s$

7. R_{ts} ; C_{tp}

$\tau_{sp} = R_{ts} \cdot C_{tp} = 1560\ ms$

$= 1.56\ s$

8. R_{ts} ; C_{ts}

$\tau_{ss} = R_{ts} \cdot C_{ts} = 390\ ms$

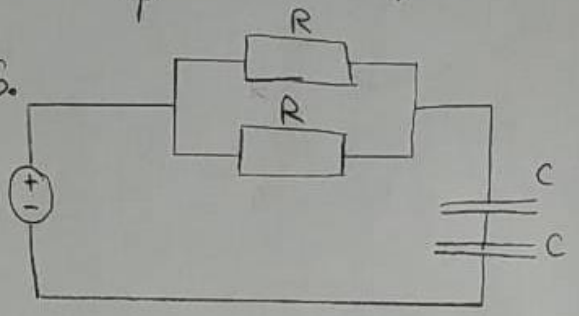
$= 3.9 \cdot 10^{-1}\ s$

9. R_{tp} ; C_{tp}

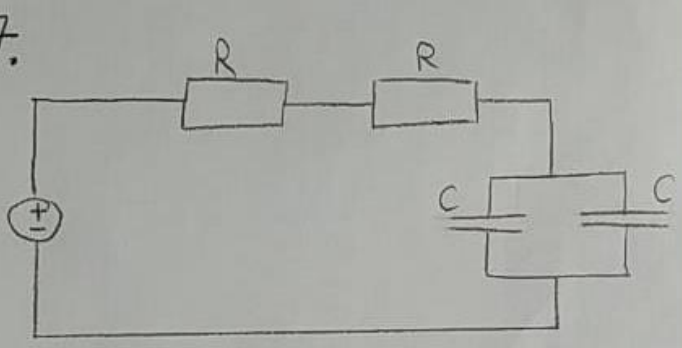
$\tau_{pp} = R_{tp} \cdot C_{tp} = 390\ ms$

$= 3.9 \cdot 10^{-1}\ s$

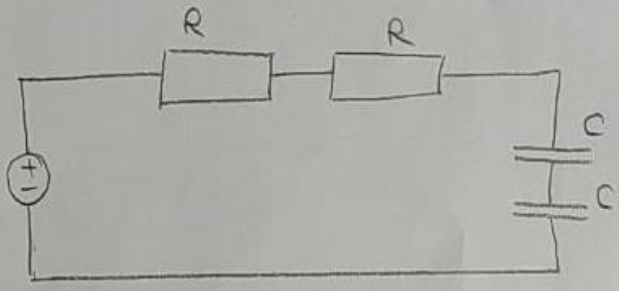
6.



7.



8.



9.