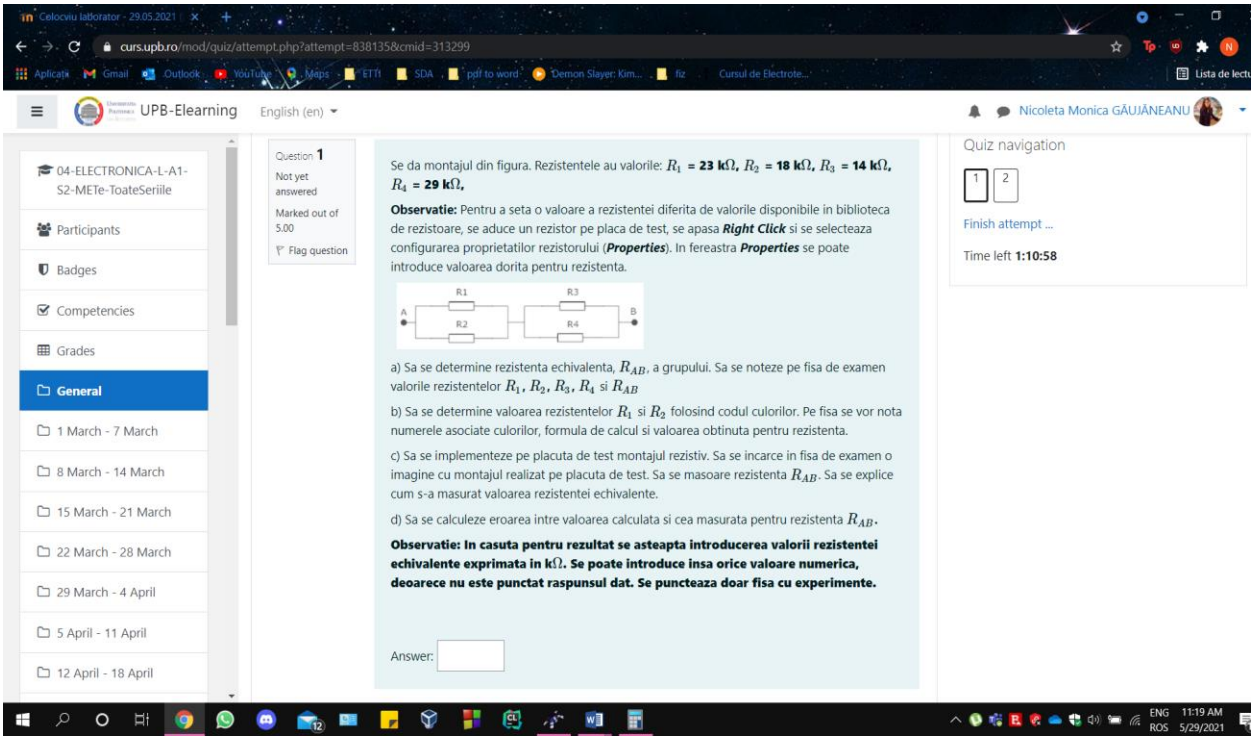
Găujăneanu Nicoleta Monica
Grupa 414D

Colocviu METc

Exercitiul 1



a) R_1 = 23kΩ, R_2 = 18kΩ, R_3 = 14kΩ, R_4 = 29kΩ,

R_{AB} = R_{12} + R_{34} = 10.0975 + 9.4418 =19.5393 kΩ

R_{12} = (R1*R2)/(R1+R2) = $\frac{23*18}{23+18}$ = 10.0975 KΩ

R_{34} = (R3*R4)/(R3+R4) = $\frac{14*29}{14+29}$ = 9.4418 KΩ

b)

R_1 : prima cifra : 2 - Rosu

a doua cifra : 3 - Portocaliu

multiplicator : 10^3 - Portocaliu

R_1 = 23*10^3 Ω = 23 kΩ

R_2 : prima cifra : 1 -Maro

a doua cifra : 8 - Gri

multiplicator : 10^3 - Portocaliu

R_2 = 18*10^3 Ω = 18 kΩ

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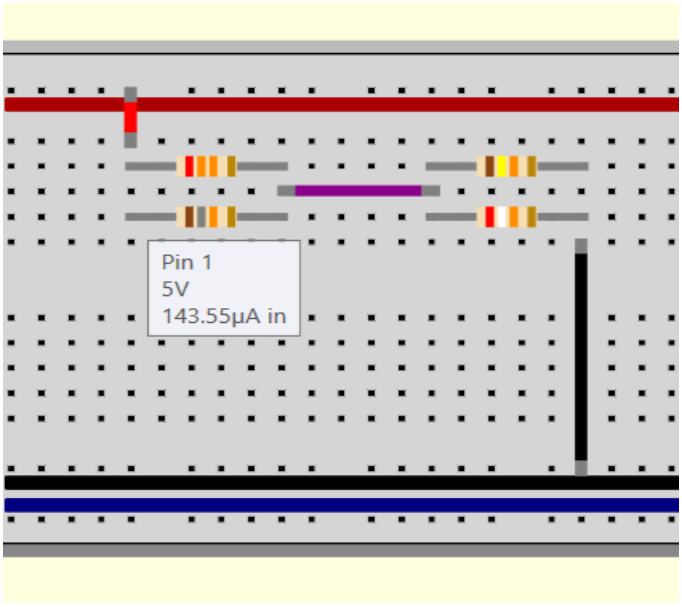
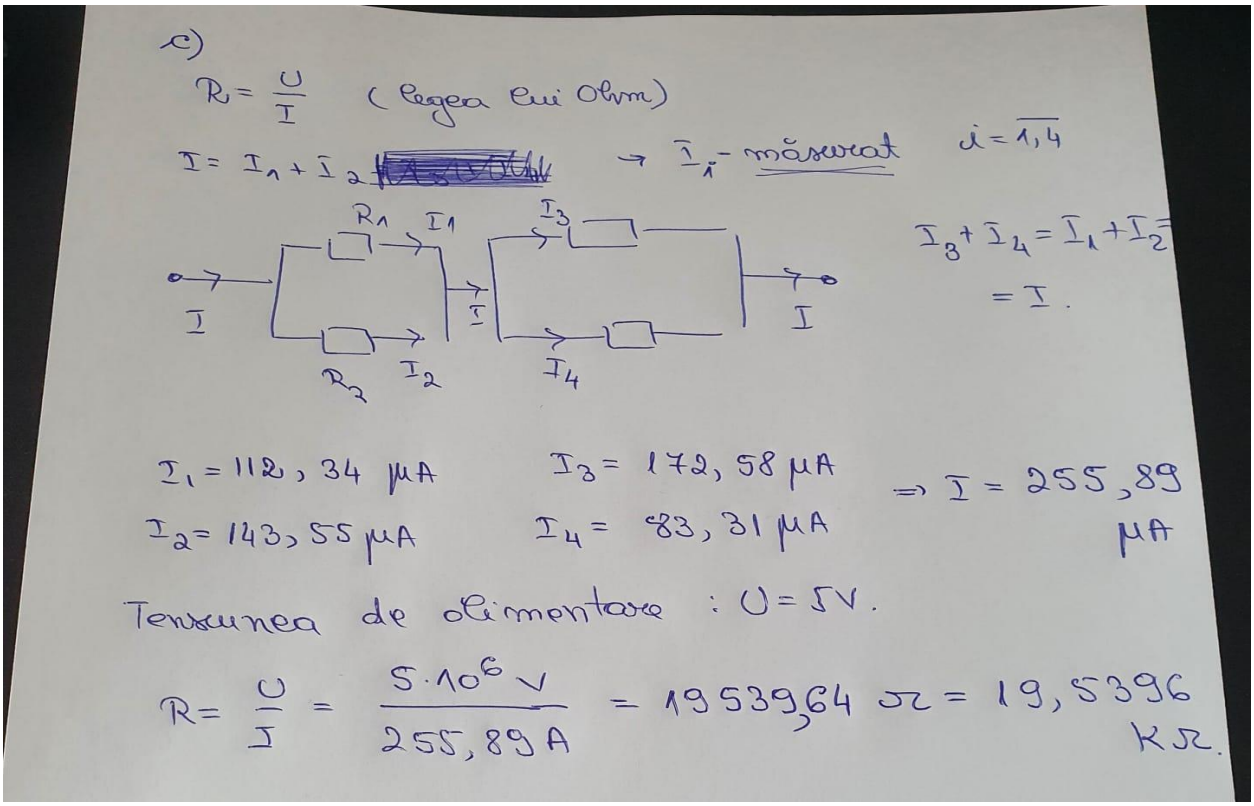
c) $R_{ABmasurat}$ = 19.5396 kΩ





d) ε = $\frac{Rmas - Rcalc}{Rcalc}$ * 100 = (19.5396 – 19.5393)/ 19.5393 = 0.0015%

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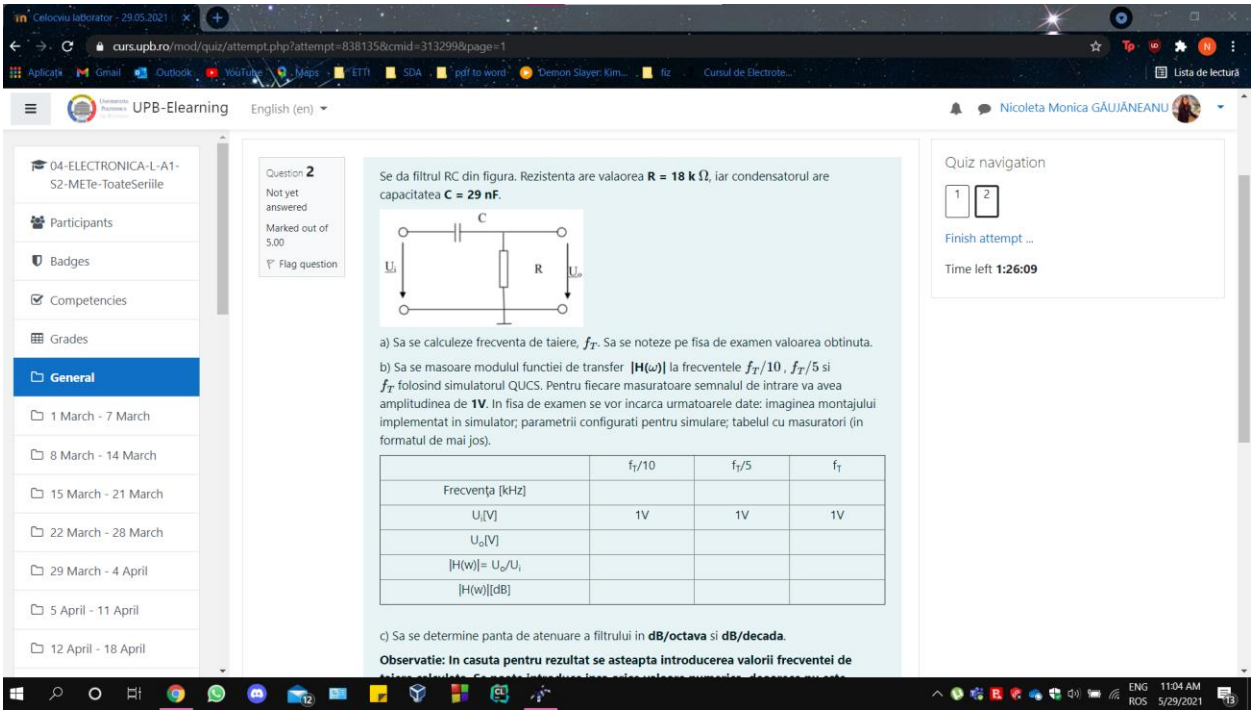
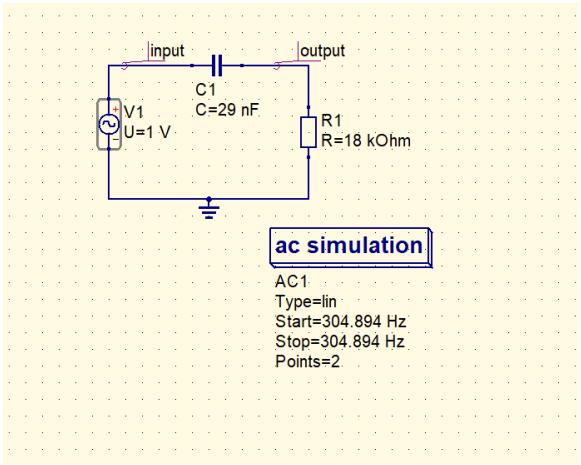
Exercitiul 2



	$f_T/10$	$f_T/5$	f_T
Frecvența [kHz]			
U_i[V]	1V	1V	1V
U_o[V]			
$\|H(w)\| = U_o/U_i$			
$\|H(w)\|$[dB]			

a) $f_T = \frac{1}{2\pi RC} = 304.894$ Hz = 0.304 kHz

b) montaj



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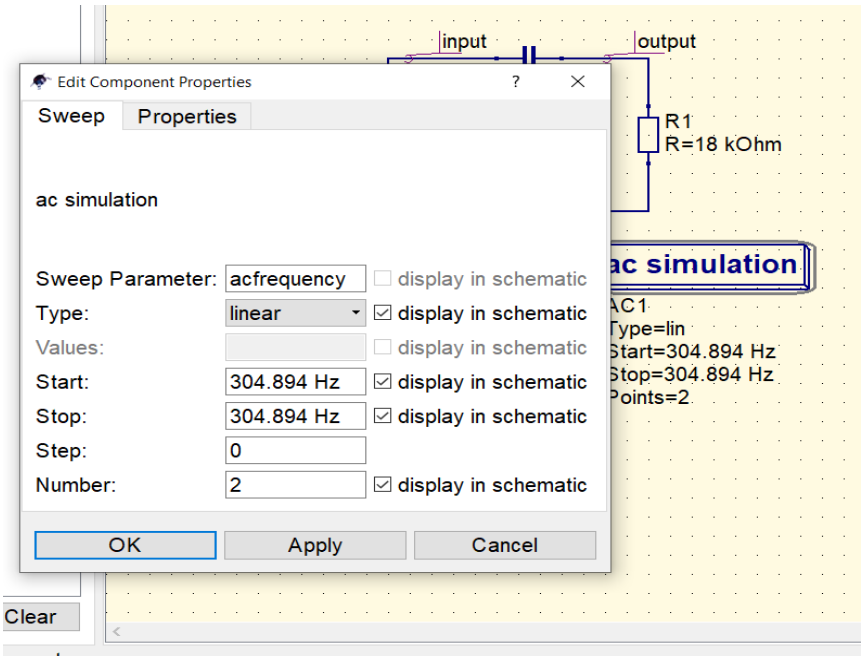
parametrii simulare



tabel

	fT /10	fT /5	fT
Frecventa	30.4894 Hz	60.978 Hz	304.894 Hz
Ui	1V	1V	1V
Uo	O.O995 V	0.196 V	0.707 V
|H(w)| = Uo/Ui	O.O995	0.196	0.707
|H(w)| [dB]	-20.043	-14.154	-3.016

c) FTS

panta [dB/decadă]=$\left|H\left(\frac{f}{10}\right)\right|_{dB} - |H(f)|_{dB}$ = -20.043 + 3.016 = - 17.016

[dB/octavă]=$\left|H\left(\frac{f}{2}\right)\right|_{dB} - |H(f)|_{dB}$ = -6.993 + 3.016 = - 3.077

f/2= 304.894 Hz/2 = 152.447 Hz => $\left|H\left(\frac{f}{2}\right)\right|_{dB}$ = 20log(0.447) = -6.99