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CARRERA:

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MATERIA:

Ingeniería de Control

GRADO Y GRUPO:

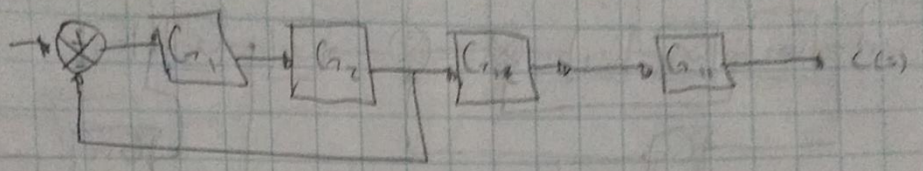
8°-B

CUATRIMESTRE:
Enero - abril

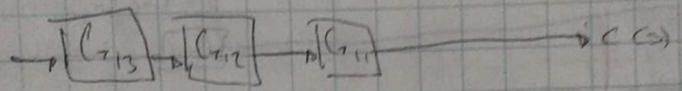
NOMBRE DEL DOCENTE:

Moran Garabito Carlos Enrique

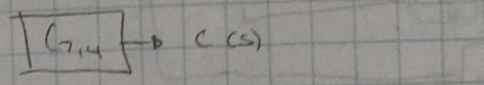
$$G_{12} = \frac{G_7}{G_2} + G_3$$



$$G_{13} = \frac{G_1 G_2}{1 + G_1 G_2 G_1} = G_{13} = \frac{G_1 G_2}{1 + G_1 G_2}$$



$$G_{13} G_{12} G_{11} = G_{14}$$



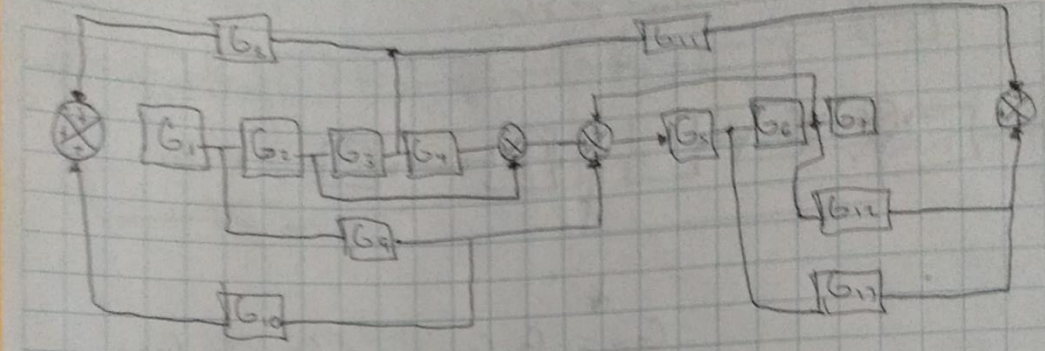
$$G_{14} = G_{13}\, G_{12}\, G_{11} = G_7(s) = G_{11}\, G_{12} G_{13}$$

$$G_7(s) = (G_{10}\, G_6)\left(\frac{G_7}{G_2} + G_3\right)\left(\frac{G_1 G_2}{1 + G_1 G_2}\right)$$

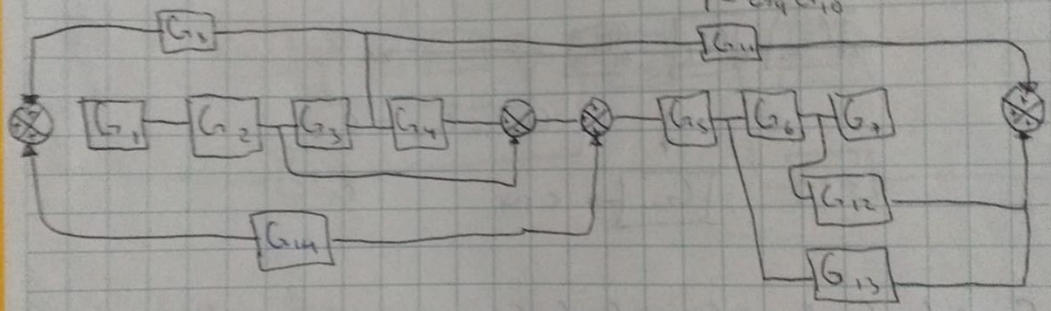
$$G_7(s) = \left(\frac{G_9}{1 + G_9 G_8}\right)(G_6)\left(\frac{G_7}{G_2} + G_3\right)\left(\frac{G_1 G_2}{1 + G_1 G_2}\right)$$

$$G_7(s) = \left(\frac{G_4 G_5}{1 + G_4 G_5 G_8}\right)(G_6)\left(\frac{G_7 + G_3 G_2}{G_2}\right)\left(\frac{G_1 G_2}{1 + G_1 G_2}\right)$$

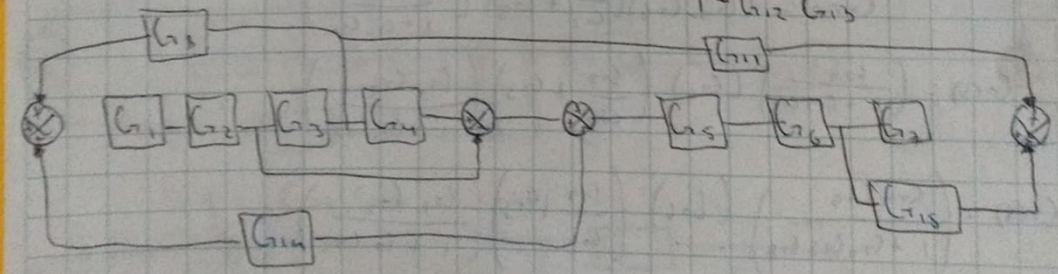
$$G_7(s) = \frac{G_4 G_5 G_6 G_7 + G_3 G_2 (G_7 G_3 G_2)}{(1 + G_4 G_5 G_8)(G_2)(1 + G_1 G_2)}$$



$$G_{14} = \frac{G_9}{1 - G_9 G_{10}}$$



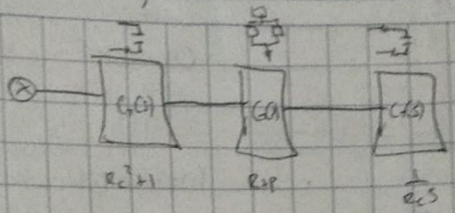
$$G_{15} = \frac{G_{12}}{1 - G_{12} G_{13}}$$



$$G_{16} = G_5 G_6$$

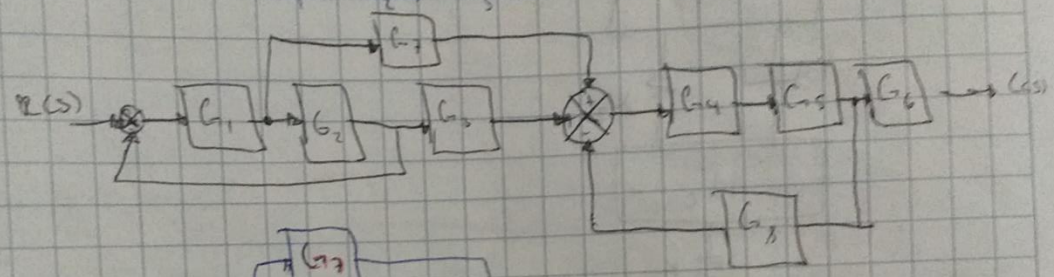
Curs Comando DPcgo

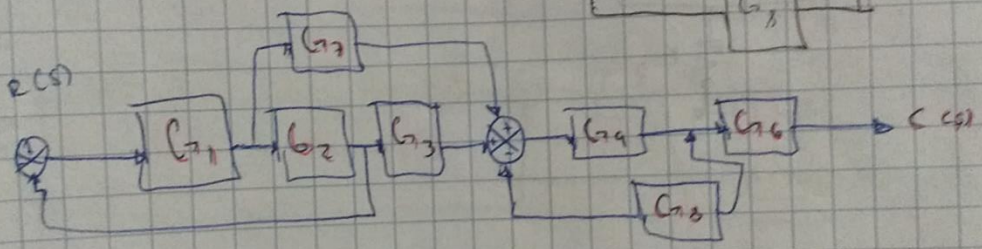
21/Enero/2020



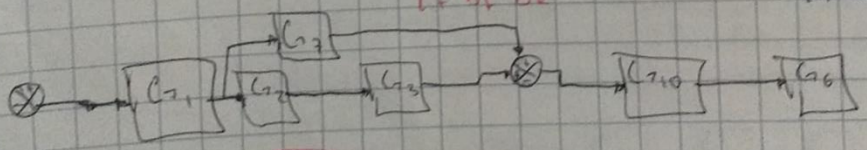
$G_7 9 = G_4 G_5$

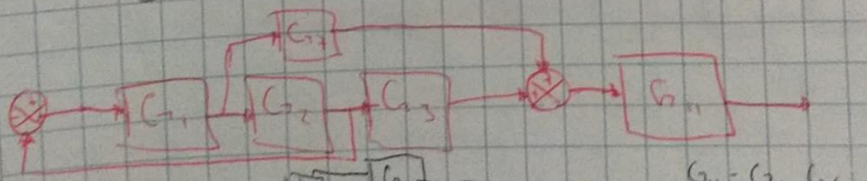
$G_1(s)$ $G_2(s)$ $G_3(s)$



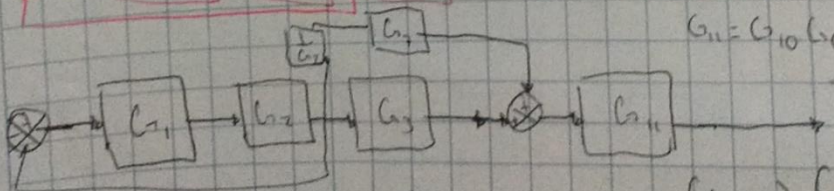


$G_7(s) = \frac{B_c}{1 \mp B_c B_e}$ $\Rightarrow$ $G_{7_{10}} = \frac{G_9}{1 + G_9 G_{7_8}}$





$G_{11} = G_{10} G_6$



$(G_1 G_2)\left(\frac{1}{G_2}\right) = G_1$

$\frac{G_1 G_2}{G_2} = G_1$

$$G_2(s) = \left(\frac{G_{28}(G_{29} \; G_{210})(G_{214}}{-(-1)\; G_{28}\; G_{211}\; G_{214}} \right) \left(\frac{G_{24} \quad G_{214}}{1 - G_{211}\; G_{216}} \right)$$

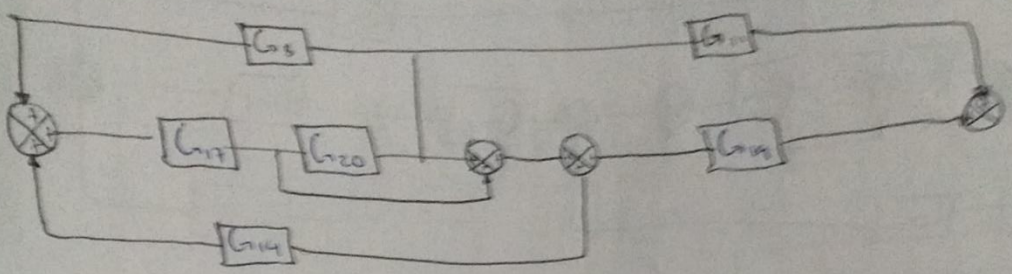
$$G_2(s) = \left[\frac{G_{28}\left(G_{29}\left(\frac{G_3\; G_4}{1+G_3\; G_4}\right)\right) G_{214}}{-(-1)\; G_{28}\; G_{219}\left(\frac{G_3\; G_4}{1+G_3\; G_4}\right) G_{214}} \right] \left(\frac{G_{211} \quad G_{214}}{1 - G_{24}\; G_{216}} \right)$$

$$G_2(s) = \left[\frac{G_{28}\left(G_{29}\left(\frac{G_3\; G_4}{1+G_3\; G_4}\right)\right) G_{214}}{-(-1)\; G_{28}\; G_{29}\left(\frac{G_3\; G_4}{1+G_3\; G_4}\right) G_{214}} \right] \left(\frac{G_{24} \quad G_{214}}{1 - G_{24}\; (G_{216}\; G_{212})} \right)$$

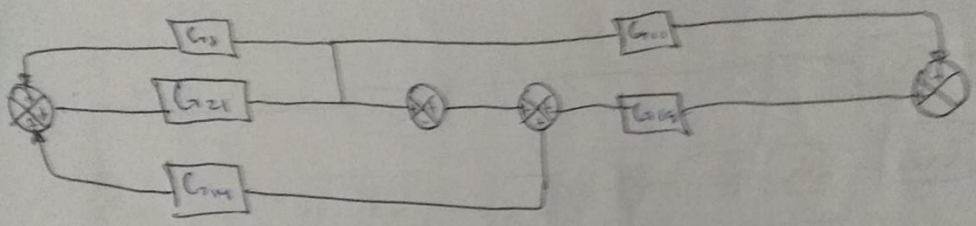
$$G_2(s) \left[\frac{G_{28}\left(G_{29}\left(\frac{G_3 \quad G_4}{1+G_3\; G_4}\right)\right) G_{214}}{-(-1)\; G_{28}\; G_{29}\left(\frac{G_3\; G_4}{1+G_3\; G_4}\right) G_{214}} \right] \left[\frac{G_{211} \quad G_{214}}{1 - G_{211}\left(G_{216}\left(\frac{G_7}{1+G_7\; G_{215}}\right)\right)} \right]$$

$$G_2(s) = \left[\frac{G_{28}\left(G_1\; G_2\right)\left(\frac{G_3\; G_4}{1+G_3\; G_4}\right) G_{214}}{-(-1)\; G_{28}\left(G_1\; G_2\right)\left(\frac{G_3\; G_4}{1+G_3\; G_4}\right) G_{214}} \right] \left[\frac{G_{211} \quad G_{214}}{1 - G_{211}\left(G_{216}\left(\frac{G_7}{1-G_7\; G_{215}}\right)\right)} \right]$$

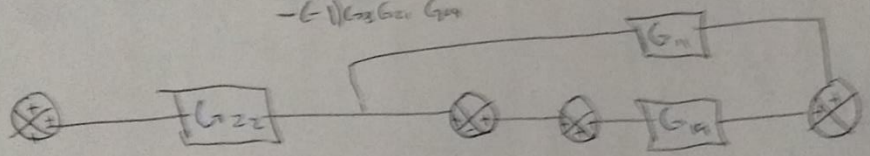
$$G_2(s) = \left[\frac{G_{28}\left(G_1\; G_2\right)\left(\frac{G_3\; G_4}{1+G_3\; G_4}\right) \frac{G_9}{1-G_9\; G_{210}}}{-(-1)\; G_{28}\left(G_1\; G_2\right)\left(\frac{G_3\; G_4}{1+G_3\; G_4}\right) \frac{G_9}{1-G_9\; G_{210}}} \right] \left[\frac{G_{211} \quad \frac{G_9}{1-G_9\; G_{210}}}{1 - G_{211}\left(G_5\; G_6\left(\frac{G_7}{1+G_7\left(\frac{G_{213}}{1-G_{212}\; G_{213}}\right)}\right)\right)} \right]$$



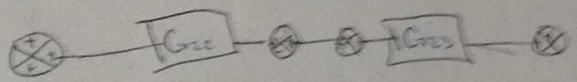
$G_{21} = G_{17} G_{20}$



$$G_{22} = \frac{G_8 G_{21} G_{14}}{-G_1 G_8 G_{21} G_{14}}$$

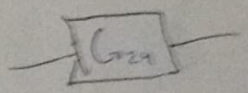


$$G_{23} = \frac{G_{11} G_{16}}{1 - G_{11} G_{16}}$$



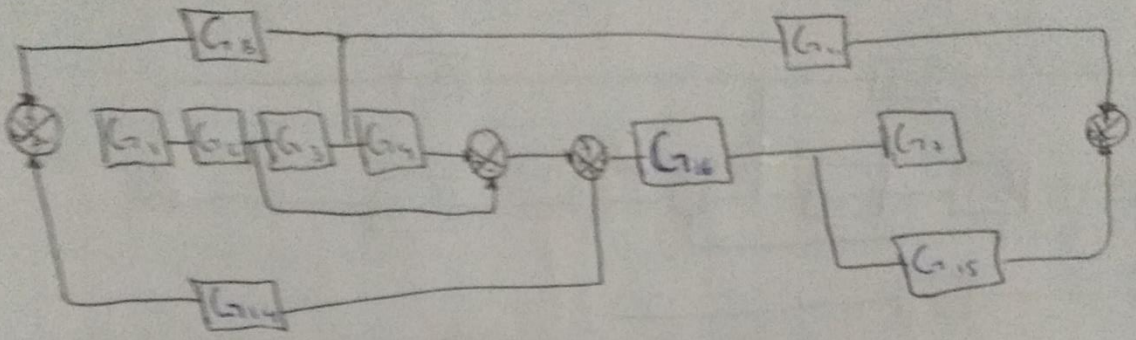
$G_{24} = G_{22} G_{23}$

$G_{24} = G_{22} G_{23} = G_{1(8)} = G_{22} G_{23}$

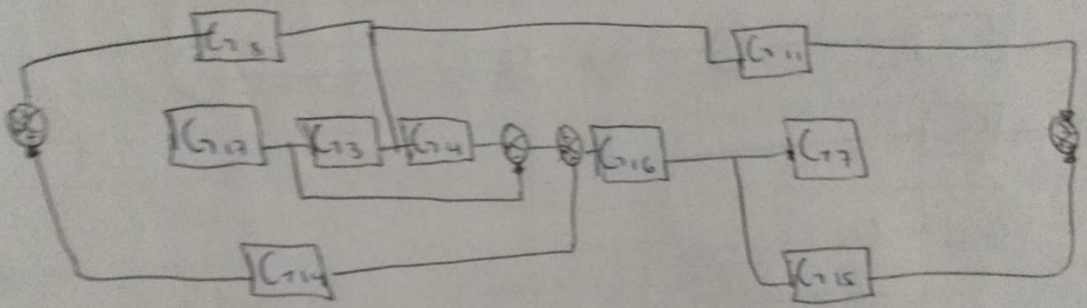


$$G_{(s)} = \left(\frac{G_8 G_{21} G_{14}}{-G_1 G_8 G_{21} G_{14}}\right)\left(\frac{G_{11} G_{16}}{1 - G_{11} G_{16}}\right)$$

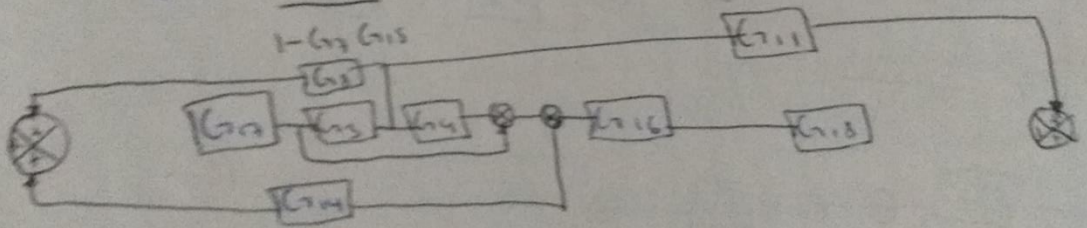
$$G_{(s)} = \left(\frac{G_8 (G_{11} G_{20}) G_{14}}{-G_1 G_8 G_{21} G_{14}}\right)\left(\frac{G_{11} G_{16}}{1 - G_{11} G_{16}}\right)$$



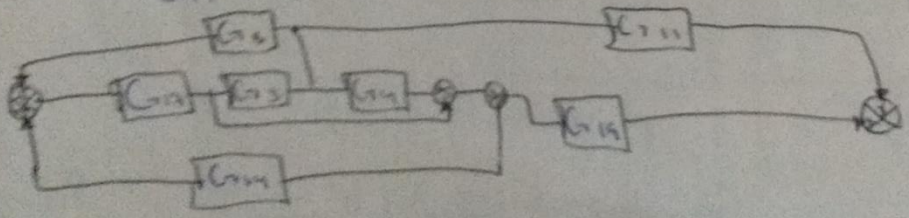
$G_{17} = G_1 G_2$



$G_{18} = \frac{G_7}{1 - G_3 G_{15}}$



$G_{19} = G_{16} G_{18}$



$G_{20} = \frac{G_3 G_4}{1 + G_3 G_4}$