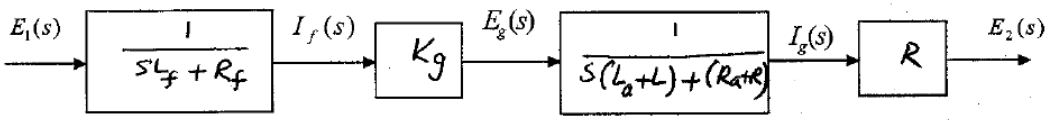
KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
ELECTRICAL ENGINEERING DEPARTMENT

EE380 [081]	SEC#_____	Quiz # 2
Name:_____	ID:_____	Grade:_____

Fill in the boxes the appropriate values, and then find the transfer function $\frac{E_2(s)}{E_1(s)}$ for the system shown. Evaluate your results for the following values.

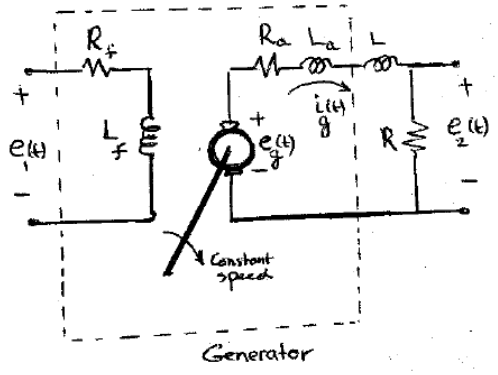
$L_f = 50\,H,\ L_a = L = 1\,H,\ K_g = 200$ *volts / field ampere* $,\ R_f = 50\ \Omega, R_a = R = 1\Omega$



$$T.F = \frac{R\,K_g}{(sL_f + R_f)[(L_a+L)s + (R_a+R)]}$$

$$= \frac{400}{(50s+50)[4s+4]}$$

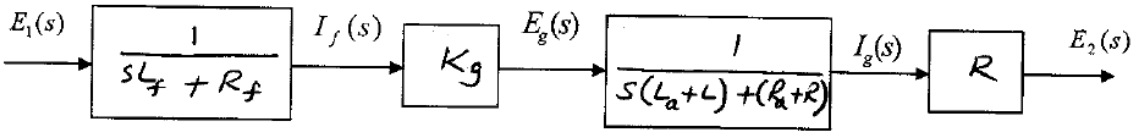
$$= \frac{400}{200(s+1)^2} = \frac{2}{(s+1)^2}$$



EE380 [081]	SEC# 3	Quiz # 2
Name: Key	ID:_____	Grade:_____

Fill in the boxes the appropriate values, and then find the transfer function $\frac{E_2(s)}{E_1(s)}$ for the system shown. Evaluate your results for the following values.

$L_f = 50\,H,\ L_a = L = 1\,H,\ K_g = 200$ *volts / field ampere* $,\ R_f = 500\,\Omega, R_a = R = 1\Omega$



$$\frac{E_2(s)}{E_1(s)} = \frac{R\,K_g}{(sL_f + R_f)[s(L_a+L) + (R_a+R)]}$$

$$= \frac{200}{(50s+500)(2s+2)}$$

$$= \frac{2}{(s+10)(s+1)}$$