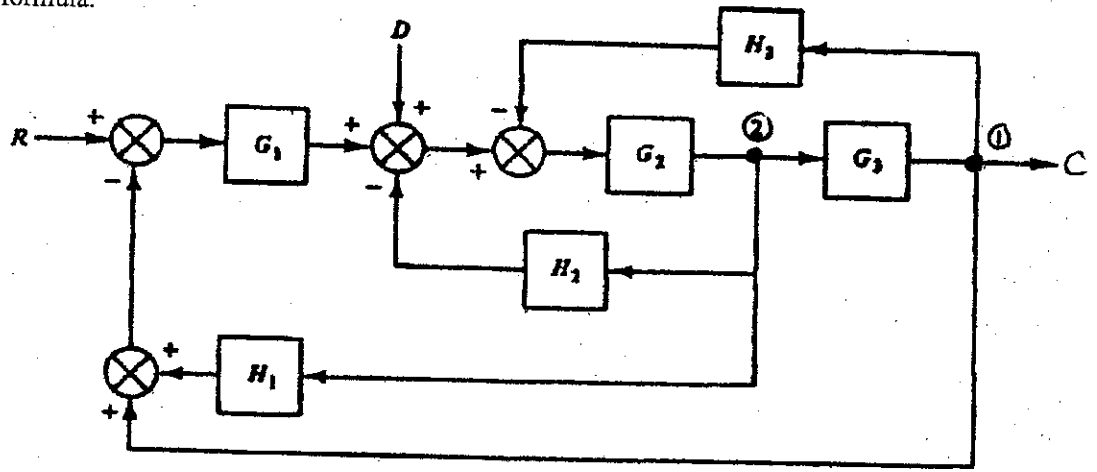
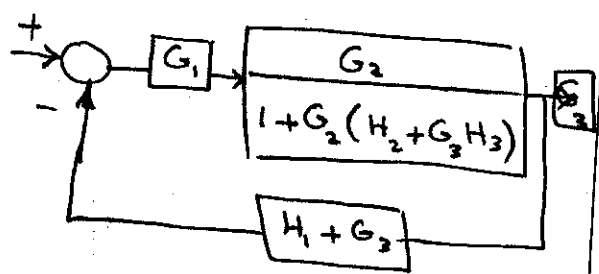
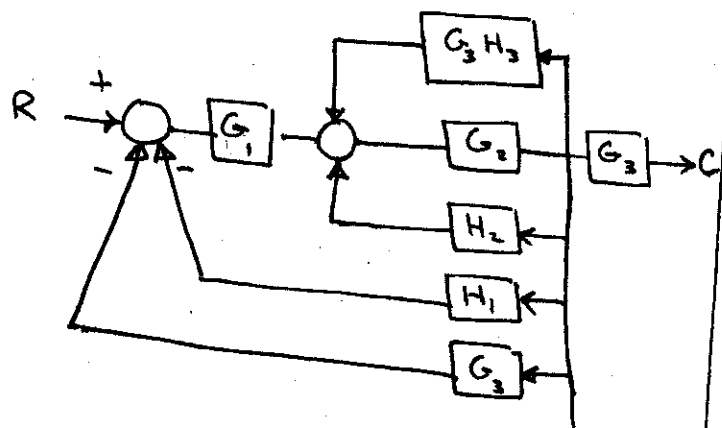


EE380 [081] SEC# \_\_\_\_\_ Quiz # 3  
Name: \_\_\_\_\_ ID: \_\_\_\_\_ Grade: \_\_\_\_\_

Find the transfer function  $\frac{C(s)}{R(s)}$  using block reduction techniques. Verify your results using Mason's gain formula.



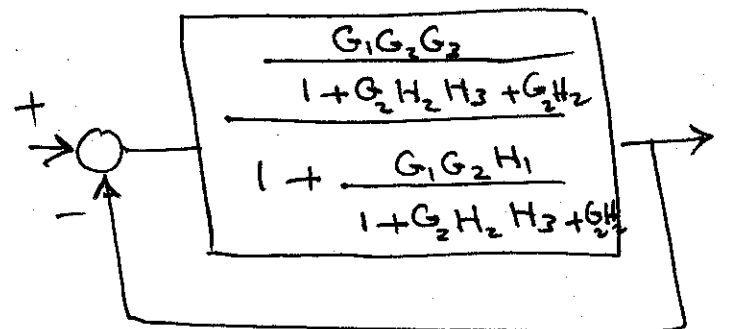
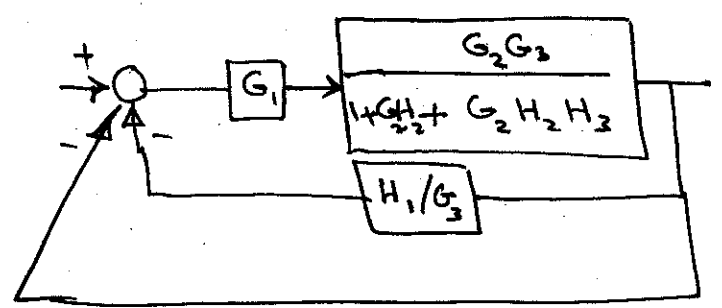
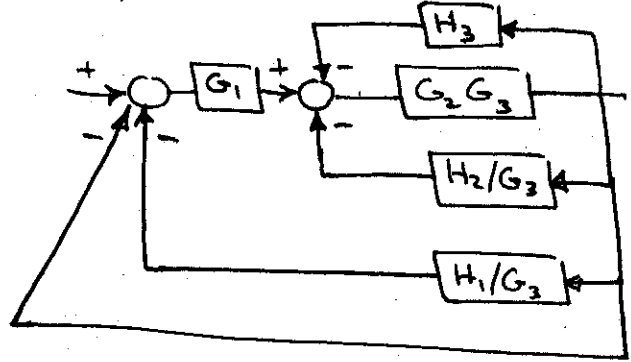
Move pick-off point from ① to ②



$$\frac{R/C}{R/C} = \frac{G_1 G_2 G_3}{G_1 G_2 (H_1 + G_3) + 1 + G_2 (H_2 + G_3 H_3)}$$

$$= \frac{G_1 G_2 G_3}{1 + G_2 H_2 + G_2 G_3 H_3 + G_1 G_2 G_3 + G_1 G_2 H_1}$$

Move pick-off point from ② to ①



$$\frac{R/C}{R/C} = \frac{G_1 G_2 G_3}{1 + G_2 H_2 H_3 + G_1 G_2 H_1 + G_2 H_2 + G_1 G_2 G_3}$$