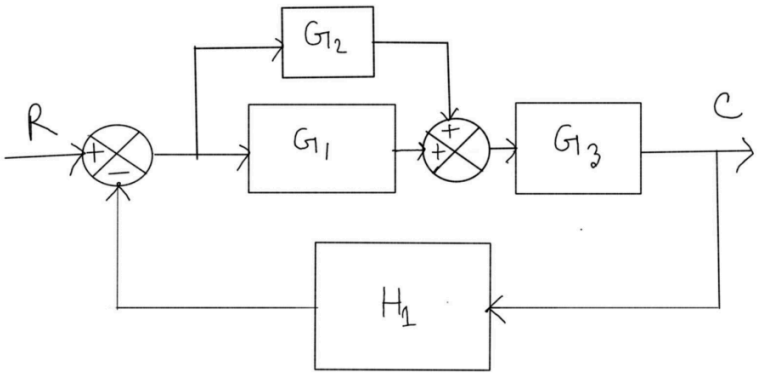
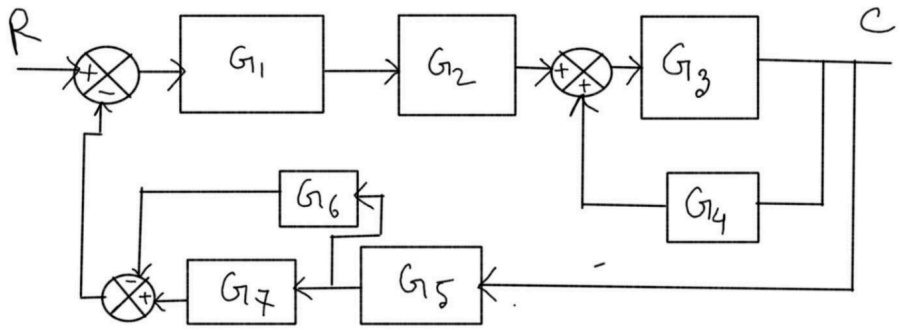
BRAC University
Course : CSE461 (Introduction to Robotics)

Quiz 4 (15 Marks)

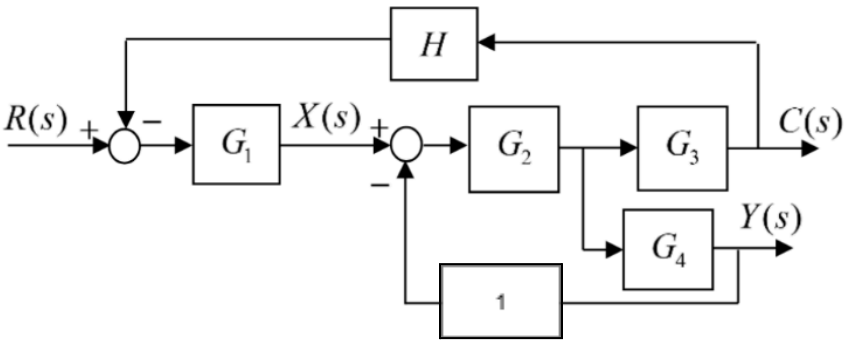
Problem 1: (2 Mark) Calculate **C/R :**



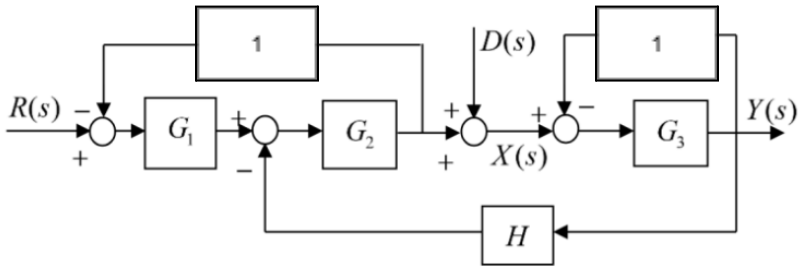
Problem 2: (2 Marks) Calculate **C/R :**



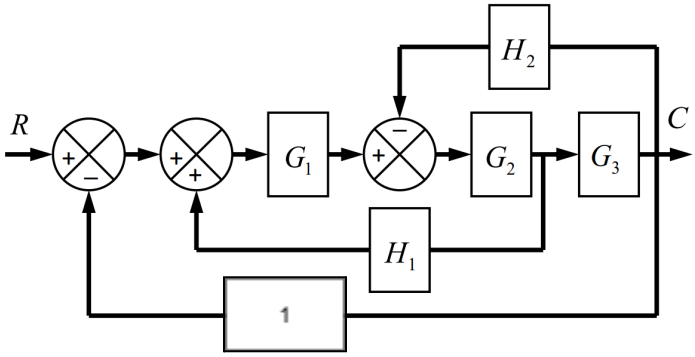
Problem 3: (2 Marks) Calculate $\frac{Y}{R}(s)$, and $\frac{C}{R}(s)$



Problem 4: (3 Marks) Calculate **Y/R**



Problem 5: (3 Marks) Calculate **C/R :**



Problem 6: (3 Marks)

Input Feature Map

3	5	2	8	1
9	7	5	4	3
2	0	6	1	6
6	3	7	9	2
1	4	9	5	1

Convolutional Filter

1	0	0
1	1	0
0	0	1

a) What is the resulting feature map (X) after doing the convolution, Stride = 1, Show step by step? **[2 Marks]**
b) Suppose, we have applied a 2x2 max pooling on the feature map (X), what will be the final feature map (X')? **[1 Marks]**