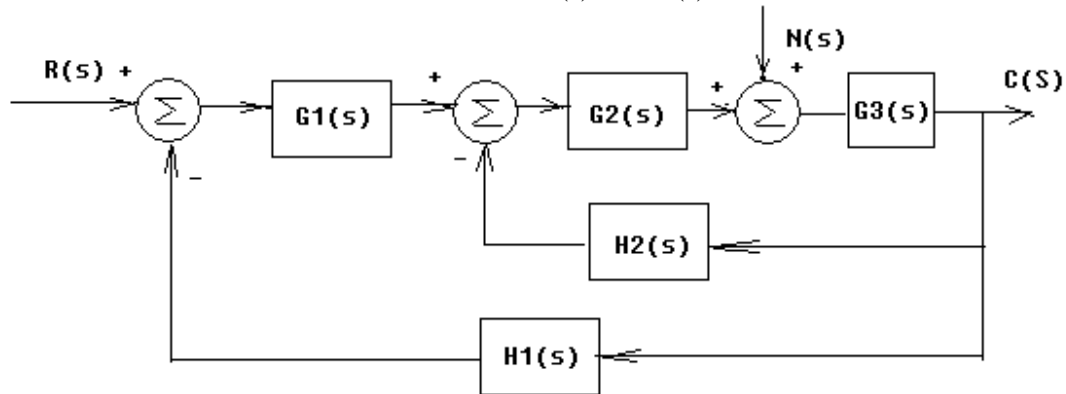
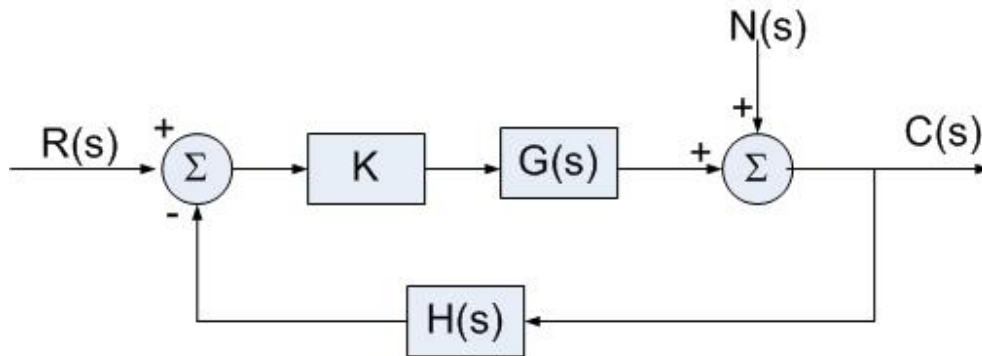


Part A

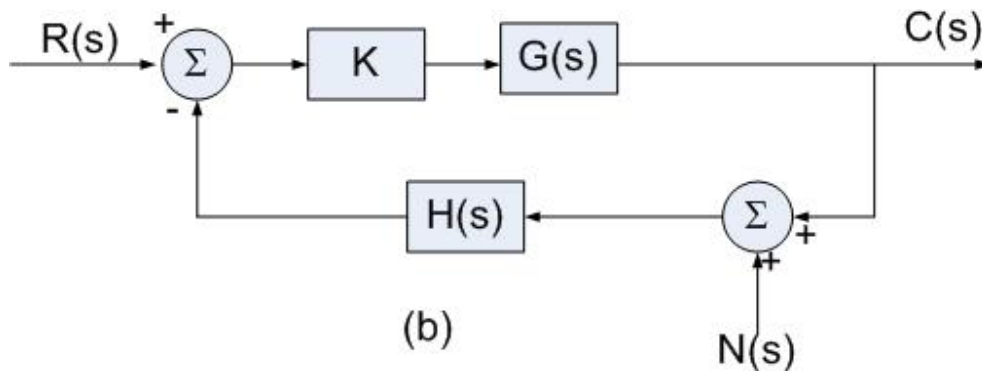
1. Determine the transfer function between  $C(s)$  and  $N(s)$



2. In the following systems, gain  $K$  is variable and  $G(s)$  and  $H(s)$  are fixed. Closed-loop transfer function for disturbance is  $C(s)/N(s)$ . For the system in figure (a), in order to minimize the influence of disturbance,  $K$  will be selected as large as possible, explain the reason. Is this conclusion correct for system in figure (b)



(a)



(b)

Part B

Problems from the text: 4.4, 4.5, 4.6