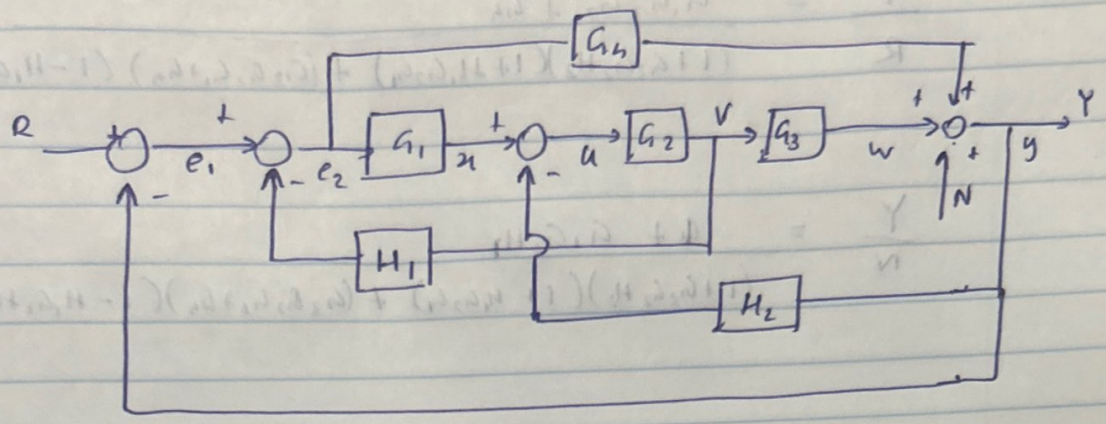
No: _____ Date: __/__/____

To:

Q6).



$e_1 = R - y$

$e_2 = e_1 - H_1 V$, $e_2 = R - y - H_1 V$

$u = x - H_2 y$ $= R - Y - H_1 G_2 (G_1 e_2 - H_2 y)$

$x = G_1 e_2$ $e_2 (1 + H_1 G_1 G_2) = R + y (H_1 G_2 H_2 - 1)$

$V = G_2 u$

$w = G_3 V$ $e_2 = \dfrac{R + y(H_1 H_2 G_2 - 1)}{(1 + H_1 G_1 G_2)}$

$y = w + G_4 e_2 + N$

$v = G_2 (G_1 e_2 - H_2 y)$

$w = G_3 G_2 (G_1 e_2 - H_2 y)$

$y = G_3 G_2 (G_1 e_2 - H_2 y) + G_4 e_2 + N$

$y (1 + H_2 G_3 G_2) = G_3 G_2 G_3 e_2 + G_4 e_2 + N$

$Y (1 + H_2 G_2 G_3) = (G_4 + G_1 G_2 G_3) \left[\dfrac{R + Y(H_1 H_2 G_2 - 1)}{(1 + H_1 G_1 G_2)} \right] + N$

$Y (1 + H_1 G_1 G_2)(1 + H_2 G_2 G_3) + (1 - H_1 H_2 G_2)(G_1 G_2 G_3 + G_4) = R(G_1 G_2 G_3 + G_4) + N$
$N(1 + H_1 G_1 G_2)$