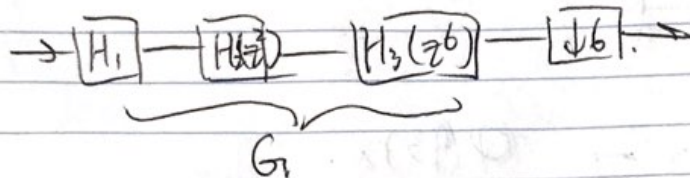
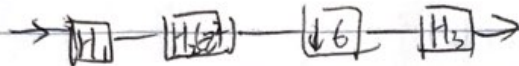
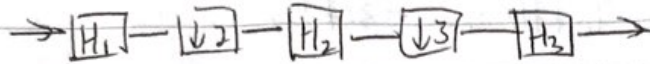


Wertzke Gwo.

ECE 310.

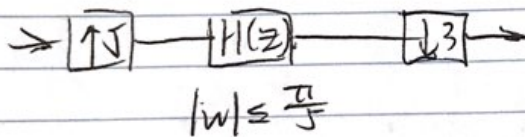
Assignment 7.

1. It's $G(\downarrow M)$.

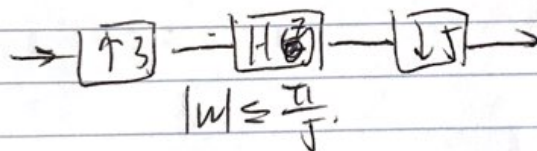


$$\therefore G(z) = H_1(z) H_2(z^2) H_3(z^6). \quad M=6.$$

2. $\frac{\pi}{3} f_s$ no loss of info



$\frac{3}{5} f_s$.



3.

3. a) f_s for x : $3 \times 24 \text{ kHz} = 72 \text{ kHz}$.
 f_s for y : $72 \text{ kHz} \div 2 = 36 \text{ kHz}$.

b). Yes ~~no~~ $|w_c| \leq \frac{\pi}{3}$. cutoff freq is $\frac{\pi}{3}$.

c). $x(w)$.

