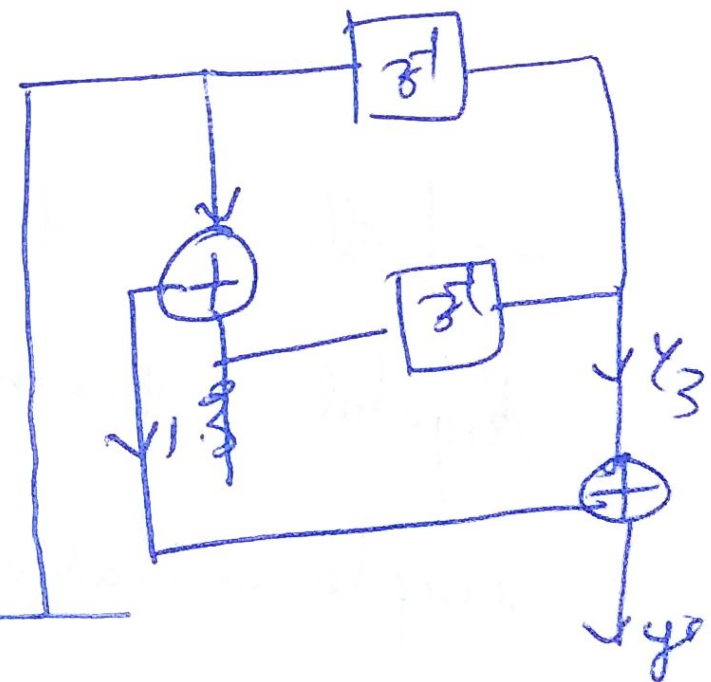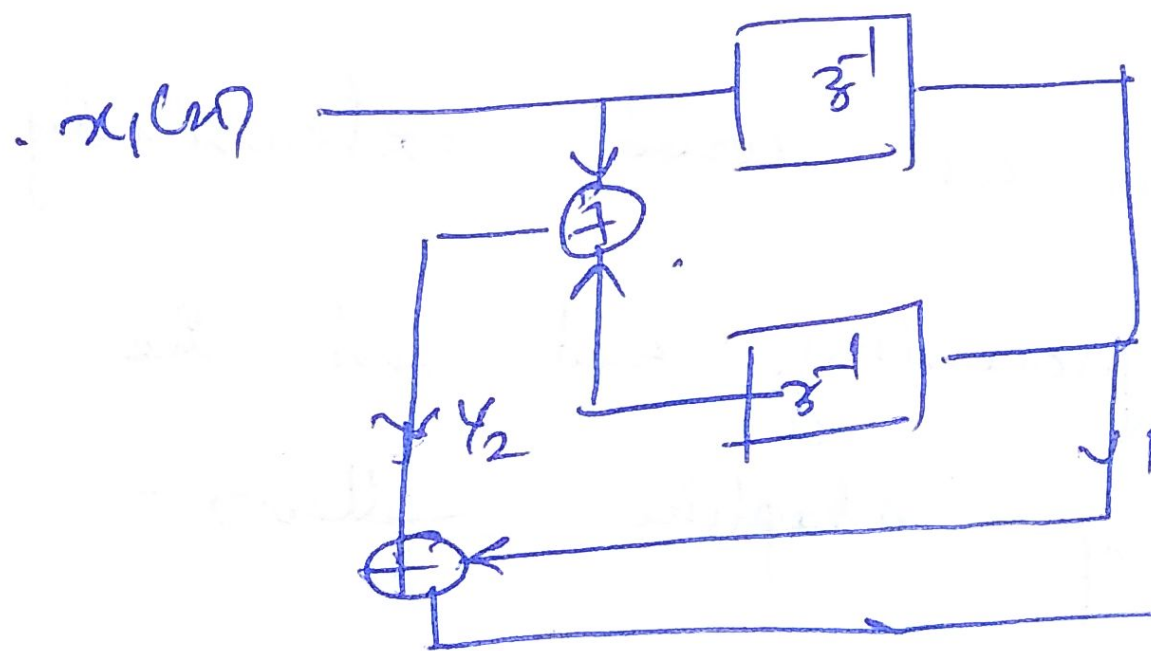Q) Obtain the cascade realization with minimum no. of multipliers for the system function.
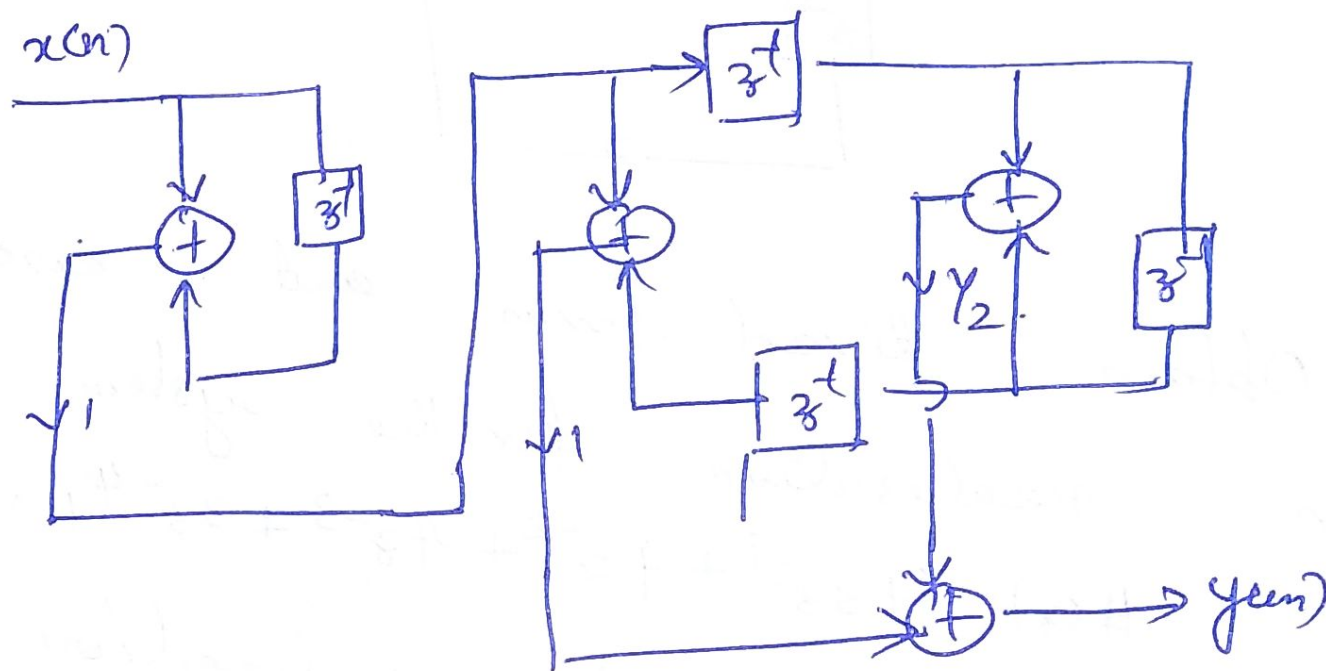
$$H(z) = \left(\tfrac{1}{2} + z^{-1} + \tfrac{1}{2} z^{-2}\right)\left(1 + \tfrac{1}{3} z^{-1} + z^{-2}\right)$$

$H_2(z)$.

$H_1(z)$

Hw

Q) Realize the following o/us function.
using minimum no. of multiplier.

$$H(z) = (1 + z^{-1})(1 + \tfrac{1}{2}z^{-1} + \tfrac{1}{2}z^{-2} + z^{-3}).$$

Q) Realize the filter $H(z) = (1 + \tfrac{1}{2}z^{-1} + z^{-2})$

$(1 + \tfrac{1}{4}z^{-1} + z^{-2})$ in cascade form with