

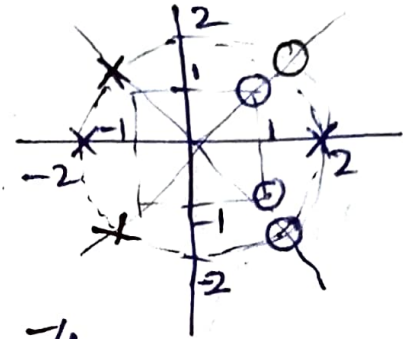
## Assignment Problems for

1) Realize using DF and cascade structures

i)  $y(n) - \frac{5}{4}y(n-1) + \frac{1}{4}y(n-2) - \frac{1}{8}y(n-3) = x(n) + 3x(n-1) + 3x(n-2) + x(n-3)$

ii)  $H(z) = \frac{(z^2 + 1)^2}{(1 - \frac{1}{4}z^{-1})(z^2 - z + \frac{1}{2})}$

iii) Slm with pole zero plot



iv)  $H(z) = 1 + \frac{1}{z} + 3\frac{1}{z^2} + \frac{4}{3}\frac{1}{z^3} + \frac{1}{4}\frac{1}{z^4}$

v) Realize  $h(n) = \{1, 2, 4, \dots, \dots, \dots\}$  of linear phase FIR system with even symmetry of order 6 using

- i) Direct form structure
- ii) Linear phase structure (min multipliers).