1. DOB - 30/05/2002

$$F(s) = \frac{s}{5+s^2}$$

$a = 5+s^2$

$b = s$

$c = (s+1)(s-(-0.5+0.5i))(s-(-0.5 \ne 0.5i))$

$\quad = s^3 + 2s^2 + 1.5s + 0.5$

$ax + by = c$

$5x + s^2 x + ys = s^3 + 2s^2 + 1.5s + 0.5$

$\quad\quad y = ax^2 + bx + c$

$5x + s^2 x + as^2 + bs + cs = s^3 + 2s^2 + 1.5s + 0.5$

$a5x + by = c$

$(5s + s^3)x + (as^2 + bs + c)s = s^3 + 2s^2 + 1.5s + 0.5$

$5sx + s^3x + as^3 + bs^2 + cs = s^3 + 2s^2 + 1.5s + 0.5$

$s^3: \quad x + a = 1$

$s^2: \quad b = 2 \quad\quad\quad$ NO SOLUTION

$s: \quad c + 5x = 1.5$

$k:$

2. $k_p = 0.02$

$k_I = 12$

$k_D = 3$