

$$b) T(s) = \frac{s^2 + 2s + 2}{s^4 + 6s^3 + 4s^2 + 7s + 2}$$

Amounts to solving for roots of the polynomial, use poles command in matlab:

$$\left. \begin{array}{l} -0,095 \pm 1,067i \\ -0,3173 \\ -5,491 \end{array} \right\} \text{poles}$$

$$c) \text{ I) } \zeta = 0,3750 \quad \omega_n = 4$$

$$T_p = 0,8472 \quad \%Os = 28,0547$$

All values obtained using self-made matlab-function (see below, after III)

$$\text{II) } \zeta = 0,0500 \quad \omega_n = 0,2$$

$$T_p = 15,7276 \quad \%Os = 85,4768$$

$$\text{III) } \zeta = 0,2469 \quad \omega_n = 32404 \cdot 10^3$$

$$T_p = 0,0010 \quad \%Os = 44,9154$$