1. A system is described by the following equations:

$$\begin{cases} x_1(t) = r(t) - c(t) + n_1(t) \\ x_2(t) = K_1 x_1(t) \\ x_3(t) = x_2(t) - x_5(t) \\ T\dfrac{dx_4(t)}{dt} = x_3(t) \\ x_5(t) = x_4(t) - K_2 n_2(t) \\ K_3 x_5(t) = \dfrac{d^2 c(t)}{dt^2} + \dfrac{dc(t)}{dt} \end{cases}$$

where K_1, K_2, K_3, and T are positive constants, $r(t)$ is the input, n_1 and n_2 are disturbances, $c(t)$ is the system output, and x_1-x_5 are intermediate variables. Draw its block diagram.

2. A system is described by the following equations:

$$\begin{cases} x_1(t) = K\left[r(t) - c(t)\right] \\ x_2(t) = \tau\dfrac{dr(t)}{dt} \\ \dfrac{dx_3(t)}{dt} = x_1(t) + x_2(t) - x_3(t) \\ T\dfrac{dx_4(t)}{dt} + x_4(t) = x_3(t) + x_5(t) \\ c(t) = x_4(t) - n(t) \\ x_5(t) = T\dfrac{dn(t)}{dt} + n(t) \end{cases}$$

where K, τ, T are positive constants, $r(t)$ is the input, $n(t)$ is the disturbance, $c(t)$ is the system output, and x1-x5 are intermediate variables. Draw its block diagram.