Seminar problem

1. Assume that output is given by

(1.1) $$y_t = \gamma(\pi_t - E_{t-1}\pi_t) + u_t$$

where $E_{t-1}u_t = 0$.

Consider two alternative specifications of the preferences of the monetary authorities:

(1.2) $$L_t = \frac{1}{2}[(\pi_t - \pi^*) + \lambda(y_t - y^*)^2]$$

(1.3) $$L_t = \tfrac{1}{2}(\pi_t - \pi^*)^2 - \lambda y_t$$

A. Give an economic interpretation of the difference between the two specifications.
B. Derive the solution for inflation and output under a discretionary policy for the two loss functions. Compare and discuss the results.

2. Consider two monetary policy regimes; (i) discretionary policy, and (ii) strict inflation targeting, i.e., $\pi_t = \pi^*$. Let $\text{var}(u_t) = \sigma^2$. Compute the expected loss, i.e., EL_t, under the two regimes based on the loss function (1.2). Is one regime always superior to the other? How does the relative performance of the two regimes depend on the output target y^*?