

6. [10] The semi-annual (y_t) is modelled by $ETS(ANA)$ process:

$$\begin{cases} u_t \sim \mathcal{N}(0; 4) \\ s_t = s_{t-2} + 0.1u_t \\ \ell_t = \ell_{t-1} + 0.3u_t \\ y_t = \ell_{t-1} + s_{t-2} + u_t \\ \ell_0 = 100, s_0 = -3, s_{-1} = 3 \end{cases}$$

Check whether the process (y_t) is stationary.