The optimization problem can be formulated as

$$\begin{aligned} &\max_{\pi} \mathbf{E}\left[\sum_{t=0}^{T-1} \gamma^t \mathcal{R}(s_t, a_t)\right] \\ &\text{s.t.} \sum_{t=0}^{T-1} \sum_{k=1}^{K} \mathcal{C}_k(s_t) = 0. \end{aligned} \tag{0.1}$$

It is equivalent to the following unconstrained optimization problem:

$$\max_{\pi} \min_{\lambda} \mathbf{E}\left[\sum_{t=0}^{T-1} \gamma^t \mathcal{R}(s_t, a_t) + \lambda \sum_{t=0}^{T-1} \sum_{k=1}^{K} \mathcal{C}_k(s_t)\right]. \tag{0.2}$$

It is further equivalent to the following problem:

$$\min_{\lambda} \max_{\pi} \mathbf{E}\left[\sum_{t=0}^{T-1} \gamma^t \mathcal{R}(s_t, a_t) + \lambda \sum_{t=0}^{T-1} \sum_{k=1}^{K} \mathcal{C}_k(s_t)\right]. \tag{0.3}$$