Given $\{\lambda_0, \lambda_1, \lambda_2, ...\}, \{\mu_0, \mu_1, ...\}$, $\{t_0, t_1\}$, we define the function $P : \mathbb{N} \longrightarrow \mathbb{R}$ as

$$P(n) = \int_0^{t_0} \int_{x_0}^{t_0} ... \int_{x_{n-1}}^{t_0} \int_{x_n}^{t_0} e^{x_0(\lambda_{n+1}-\lambda_0)} \cdots e^{x_n(\lambda_{n+1}-\lambda_n)} \cdot \tag{1}$$
$$\cdot[1 - e^{-\mu_0(t_1 - \sum_i^0 x_i)}] \cdots [1 - e^{-\mu_n(t_1 - \sum_i^n x_i)}] dx_n dx_{n-1} ... dx_1 dx_0$$