$$\boxed{P_m = \begin{cases} \dfrac{(c\rho)^m}{m!} P_0 , & 0 < m \le c \\[2ex] \dfrac{(c\rho)^m}{c!} \left(\dfrac{1}{c}\right)^{m-c} P_0 , & m \geq c \end{cases}}$$

$$\boxed{\rho = \frac{\lambda}{c\mu}}$$

$$\sum_{m=0}^{\infty} P_m = 1 \rightarrow \sum_{m=0}^{c-1} \frac{(c\rho)^m}{m!} P_0 + \sum_{m=c}^{\infty} \frac{(c\rho)^m}{c!} \left(\frac{1}{c}\right)^{m-c} P_0 = 1$$

$$P_0 = \left( \sum_{m=0}^{c-1} \frac{(c\rho)^m}{m!} + \boxed{\sum_{m=c}^{\infty} \frac{(c\rho)^m}{c!} \left(\frac{1}{c}\right)^{m-c}} \right)^{-1}$$

$$\sum_{m=c}^{\infty} \frac{c^m \rho^m}{c!} \cdot \frac{1}{c^{m-c}}$$

$$\sum_{m=c}^{\infty} \frac{\cancel{c^m} \rho^m c^c}{c! \, \cancel{c^m}}$$

$$\frac{c^c}{c!} \sum_{m=c}^{\infty} \rho^m \rightarrow \frac{c^c}{c!} \sum_{m=0}^{\infty} \rho^{m+c}$$

$$P_0 = \left( \sum_{m=0}^{c-1} \frac{(c\rho)^m}{m!} + \frac{c^c}{c!} \sum_{m=0}^{\infty} \rho^{m+c} \right)^{-1}$$

$$\boxed{P_0 = \left( \sum_{m=0}^{c-1} \frac{(c\rho)^m}{m!} + \frac{(c\rho)^c}{c!} \cdot \frac{1}{(1-\rho)} \right)^{-1}}$$