Table 1: Convolution Table ($\mathbb{1}(t)$ is a unit-step function)

No	$f_1(t)$	$f_2(t)$	$f_1(t) * f_2(t) = f_2(t) * f_1(t)$
1	$f(t)$	$\delta(t-T)$	$f(t-T)$
2	$e^{\lambda t}\mathbb{1}(t)$	$\mathbb{1}(t)$	$\frac{1-e^{\lambda t}}{-\lambda}\mathbb{1}(t)$
3	$\mathbb{1}(t)$	$\mathbb{1}(t)$	$t\mathbb{1}(t)$
4	$e^{\lambda_1 t}\mathbb{1}(t)$	$e^{\lambda_2 t}\mathbb{1}(t)$	$\frac{e^{\lambda_1 t}-e^{\lambda_2 t}}{\lambda_1-\lambda_2}\mathbb{1}(t), \quad \lambda_1 \neq \lambda_2$
5	$e^{\lambda t}\mathbb{1}(t)$	$e^{\lambda t}\mathbb{1}(t)$	$te^{\lambda t}\mathbb{1}(t)$
6	$te^{\lambda t}\mathbb{1}(t)$	$e^{\lambda t}\mathbb{1}(t)$	$\frac{1}{2}t^2 e^{\lambda t}\mathbb{1}(t)$
7	$t^n\mathbb{1}(t)$	$e^{\lambda t}\mathbb{1}(t)$	$\frac{n!e^{\lambda t}}{\lambda^{n+1}}\mathbb{1}(t) - \sum_{j=0}^{n}\frac{n!t^{n-j}}{\lambda^{j+1}(n-j)!}\mathbb{1}(t)$
8	$t^m\mathbb{1}(t)$	$t^n\mathbb{1}(t)$	$\frac{m!n!}{(m+n+1)!}t^{m+n+1}\mathbb{1}(t)$
9	$te^{\lambda_1 t}\mathbb{1}(t)$	$e^{\lambda_2 t}\mathbb{1}(t)$	$\frac{e^{\lambda_2 t}-e^{\lambda_1 t}+(\lambda_1-\lambda_2)te^{\lambda_1 t}}{(\lambda_1-\lambda_2)^2}\mathbb{1}(t)$
10	$t^m e^{\lambda t}\mathbb{1}(t)$	$t^n e^{\lambda t}\mathbb{1}(t)$	$\frac{m!n!}{(n+m+1)!}t^{m+n+1}e^{\lambda t}\mathbb{1}(t)$
11	$t^m e^{\lambda_1 t}\mathbb{1}(t)$	$t^n e^{\lambda_2 t}\mathbb{1}(t)$	$\sum_{j=0}^{m}\frac{(-1)^j m!(n+j)!t^{m-j}e^{\lambda_1 t}}{j!(m-j)!(\lambda_1-\lambda_2)^{n+j+1}}\mathbb{1}(t)$
	$\lambda_1 \neq \lambda_2$		$+\sum_{k=0}^{n}\frac{(-1)^k n!(m+k)!t^{n-k}e^{\lambda_2 t}}{k!(n-k)!(\lambda_2-\lambda_1)^{m+k+1}}\mathbb{1}(t)$
12	$e^{-\alpha t}\cos(\beta t+\theta)\mathbb{1}(t)$	$e^{\lambda t}\mathbb{1}(t)$	$\frac{\cos(\theta-\phi)e^{\lambda t}-e^{-\alpha t}\cos(\beta t+\theta-\phi)}{\sqrt{(\alpha+\lambda)^2+\beta^2}}\mathbb{1}(t)$
			$\phi = \tan^{-1}\left[-\beta/(\alpha+\lambda)\right]$
13	$e^{-\lambda_1 t}\mathbb{1}(t)$	$e^{\lambda_2 t}\mathbb{1}(-t)$	$\frac{e^{\lambda_1 t}\mathbb{1}(t)+e^{\lambda_2 t}\mathbb{1}(-t)}{\lambda_2-\lambda_1} \quad \mathrm{Re}\lambda_2 > \mathrm{Re}\lambda_1$
14	$e^{\lambda_1 t}\mathbb{1}(-t)$	$e^{\lambda_2 t}\mathbb{1}(-t)$	$\frac{e^{\lambda_1 t}-e^{\lambda_2 t}}{\lambda_2-\lambda_1}\mathbb{1}(-t)$