Sol →7

Ex $f(t) = t^4 e^{2t}$

$\therefore L\{e^{2t}\} = \frac{1}{s-2}$

$\therefore L\{t^4 \cdot e^{2t}\} = (-1)^2 \frac{d^2}{ds^2}\left(\frac{1}{s+2}\right)$

$= (-1)\frac{d^2}{ds^2}(s+2)^{-1}$

$= \frac{d}{ds}(s+3) = \frac{d}{ds}(s-2)^{-2}$

$= 6(s-3)^{-3} = \frac{6}{(s-3)^3}$