Question # 11279

$f(t) = At^b e^{-ct}$ Show that the rate of change in concentration with respect to time is $f'(t) = A(b - ct)t^{b-1}e^{-ct}$.

Solution. By definition, the rate of change of f is f', using the formula of differentiating of product, one can get that $f'(t) = Abt^{b-1}e^{-ct} - cAt^b e^{-ct} = A(b - ct)t^{b-1}e^{-ct}$.