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MATRIC NO: 18/ENG01/023
COURSE CODE: ENG 282.

$y = y_0 e^{kt}$

$y = 3y_0$; $\frac{y}{y_0} = 3$

A) $\frac{y}{y_0} = e^{kt} = 3$ at $t = 9$

B) $\frac{y}{y_0} = e^{kt} = 9$ at $t = 18$

$y_0 = 50$ --- i

$y_0 = 150$ --- ii

$\therefore y = 50e^{kt}$ --- iii

$y = 150e^{kt}$ --- iv

A $3 = e^{kt}$

$\ln 3 = 9kt$

$k = \frac{\ln 3}{9}$

$k = 0.122$

$9 = e^{kt}$

$\ln 9 = 18k$

$\frac{\ln 9}{18} = k$

$k = 0.122$

$y = 50e^{0.122t}$

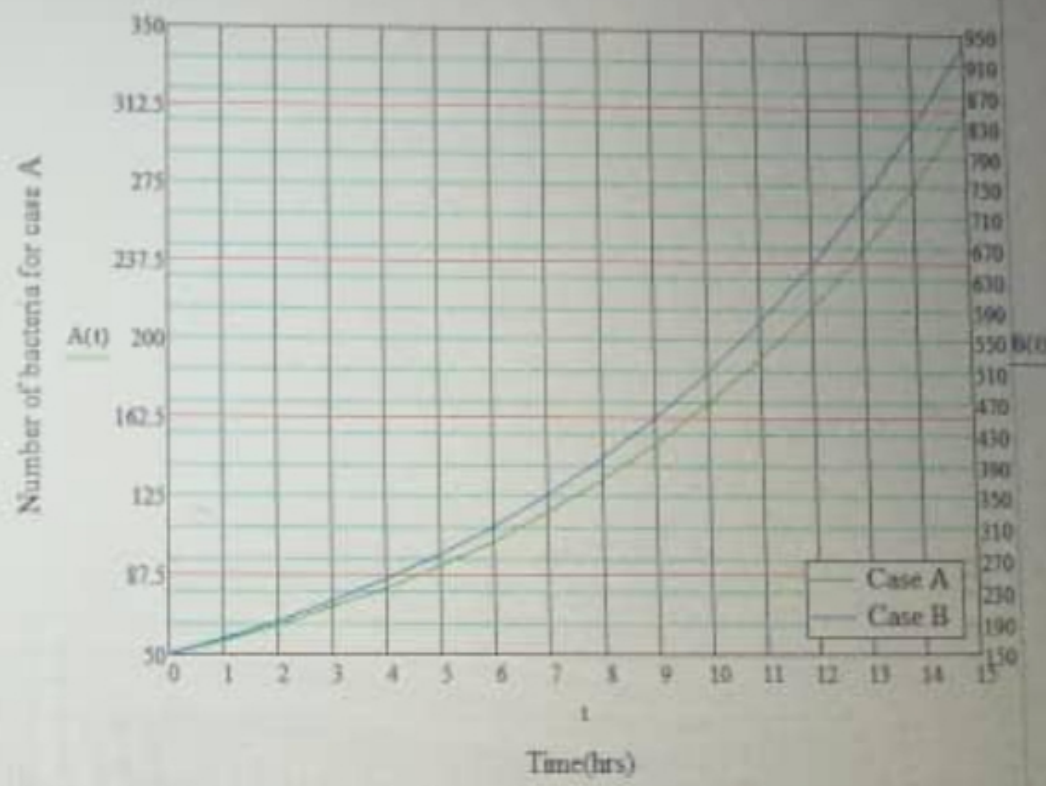
$y = 150e^{0.122t}$ A

$t := 0, 1 .. 15$

$B(t) := 150 \cdot \exp(0.122\ t)$

$B(t) =$

150
169.463
191.452
216.293
244.358
276.065
311.885
352.354
398.073
449.725
508.078
574.003
648.483
732.626
827.687
935.083



Numbers of bacteria versus time