NAME: BOLAJI OLUWATOSIN

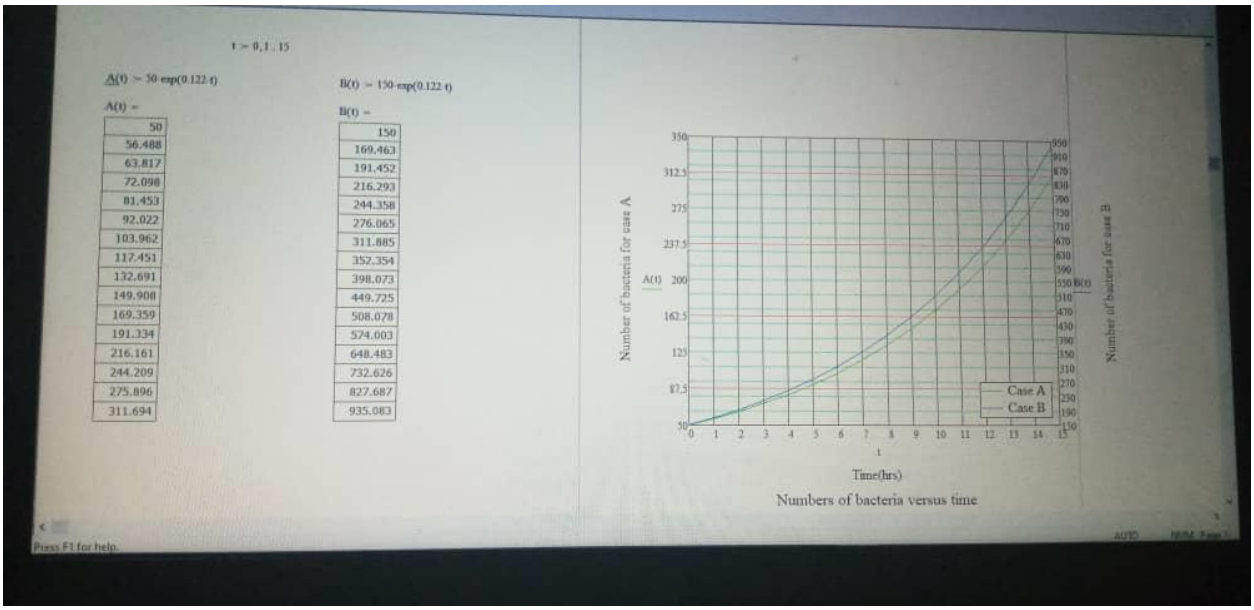
DEPARTMENT: BIOMEDICAL ENGINEERING

MATRIC NUMBER: 18/SCI05/003

COLLEGE: ENGINEERING

ENGINEERING MATHEMATICS 2

ENG 282 ASSIGNMENT



$t := 0, 1 .. 15$

$A(t) := 50 \cdot \exp(0.122 \cdot t)$

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

A(t) =

50
56.488
63.817
72.098
81.453
92.022
103.962
117.451
132.691
149.908
169.359
191.334
216.161
244.209
275.896
311.694

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

Name: Bolaji Oluwatosin
Department: Biomedical Engineering
Matric NO: 18/SCI05/008

y_0 = Initial substance
y = Final

Formula = $y = y_0 e^{kt}$

$y = 3y_0$, ~~y~~

$y/y_0 = e^{kt} = 3$ at $t = 9$

; $y = 3 \times y_0$

$y/y_0 = e^{kt} = 9$ at $t = 18$

$y_0 = 50 \ldots (i)$; $y = 50e^{kt}$

$y_0 = 150 \ldots (ii)$; $y = 150e^{kt}$

e^{kt} = exponential (Konstant x t)
?

$e^{kt} = 3$

$\ln 3 = kt$

$\ln 3 = 9k$

$k = \frac{\ln 3}{9} = 0.1221$

$e^{kt} = 9$

$\ln 9 = 18k$

$k = \frac{\ln 9}{18} = 0.1221$

$\therefore y = 50e^{0.1221}$

$y = 50e^{0.1221}$

(Graph attached on the next page)