Math152 – Spring 2016 – Group In-class Assignment#1

The equation for logistic growth, used to describe many limited growth phenomena in biology, including resource-constrained growth of cell populations such as the number of bacteria per ml in a septic system as it develops, is

$P(t) = \frac{KP_0e^{rt}}{K+P_0(e^{rt}-1)}$ for $T \geq 0$ where K, r and P_0 are each positive constant parameters

In your group, work together to

(i) Give a description in words of each of the parameters including their units

(ii) Find P(0)

(iii) Describe methods for how you would find $\lim_{t\to\infty} P(t)$ and then find this.

Hand in a single written response on a sheet of paper from your group that lists all the names of those in the group. Use a scratch sheet to do your work first and then compose a carefully written response to each of the above.