1. Bacterial stringent control:
   A. occurs when cells are in balanced exponential growth
   B. includes down-regulated synthesis of special STI proteins used to protect cells in stationary phase.
   C. includes both negative and positive strategies designed to prepare cells for stationary phase starvation survival.
   D. includes the synthesis of new ribosomes that are modified to resist proteolytic attack.
   E. occurs when the threshold concentration of signal molecules required to trigger quorum sensing events is lowered.

2. An exponentially growing bacterial culture increases from $10^3$ cells/ml to $10^6$ cells/ml in 200 minutes. What is its generation time?
   A. 10 minutes
   B. 20 minutes
   C. 30 minutes
   D. 40 minutes
   E. 50 minutes

3. What is the above culture's growth rate?
   A. 1/hr
   B. 2/hr
   C. 3/hr
   D. 0.25/hr
   E. 0.5/hr

4. How long will it take to sterilize a culture at 70 °C when its Decimal Reduction Time is 10 minutes at that temperature and it initially contains 2000 viable cells?
   A. 4 minutes
   B. 10 minutes.
   C. 20 minutes
   D. 30 minutes
   E. 40 minutes