Unit 17. Pre-Class Quiz Questions

1. The objectives of reaction engineering are (select all that are appropriate)
   a. to construct accurate mathematical models of real world reactors
   b. to change the kinetics of reactions so they will be occur faster
   c. to change the kinetics of reactions to improve the selectivity
   d. to use mathematical models of real world reactors to perform engineering tasks
   e. to change the thermodynamics of reactions to allow larger conversions
2. True or false? Reactor design entails specifying procedures for reactor start up, operation and shut down, among other things.
3. The PFR design equations include an additional balance that is not used with the batch reactor or the CSTR; this “extra” balance is on
   a. pressure
   b. viscosity
   c. momentum
   d. volume
   e. time
4. The distinguishing feature of an auto-catalytic reaction is that
   a. the rate increases as the concentration of a product increases
   b. the rate increases as the concentration of a reactant increases
   c. the rate decreases as the concentration of a product increases
   d. the rate decreases as the concentration of a reactant increases
   e. the rate does not change as the reactant concentration changes
5. The two reactions $A \rightarrow B$ and $A \rightarrow C$ are an example of
   a. a series reaction network
   b. a parallel reaction network
   c. a series-parallel reaction network
   d. an independent reaction network
   e. a dependent reaction network