

Unit 32. Pre-Class Quiz Questions

1. What distinguishes semi-batch operation from batch operation?
 - a. In semi-batch operation the reactor is never more than half full.
 - b. In semi-batch operation the headspace is always hemispherical.
 - c. In semi-batch operation at least one reagent is added to or removed from the reactor while the reaction is taking place.
 - d. In semi-batch operation the reaction is only allowed to continue for half as long as in batch operation.
 - e. In semi-batch operation the number of reactor operators is half the number used during batch operation.
2. True or false? Neutralization of a strong acid is often performed in a semi-batch reactor.
3. True or false? If one reagent boils off and is removed during a liquid phase batch process, the liquid phase may still be treated as a batch reactor, but the vapor space becomes a semi-batch reactor.
4. Which of the following situations might favor the use of a semi-batch reactor over a batch reactor (choose all that apply)
 - a. The reaction is highly endothermic
 - b. The reaction is reversible and one reactant readily boils off
 - c. The reaction is highly exothermic
 - d. The reaction is irreversible and one reactant readily boils off
 - e. The reaction is reversible and one product readily boils off
5. True or false? The semibatch design equations include all the terms in the batch reactor design equations.