

Unit 22. Pre-Class Quiz Questions

1. True or false? The work done by the agitator in a CSTR is almost always significant and needs to be included in the CSTR energy balance.
2. True or false? The steady state CSTR design equations are differential equations.
3. True or false? The heat input term (\dot{Q}) in the energy balance for a CSTR will equal zero if the reactor operates isothermally.
4. Which of the following can cause the concentration of a gas phase species at the outlet of a CSTR to be different from the concentration at the inlet to that CSTR? (select all that are appropriate)
 - a. a change in its molar flow rate due to reaction
 - b. a change in the total molar flow rate due to reaction
 - c. a difference in temperature between the inlet and the outlet
 - d. a difference in viscosity between the inlet and the outlet
 - e. a difference in height of the inlet and outlet pipes
5. True or false? CSTRs are usually assumed to operate at constant pressure.