

Unit 39. Pre-Class Quiz Questions

1. The liquid effectiveness factor is the ratio of the actual rate to the
 - a. rate of diffusion in the liquid
 - b. rate of diffusion to the liquid
 - c. rate of diffusion if there were no reaction taking place
 - d. rate of absorption if there were no reaction taking place
 - e. rate of reaction if there were no concentration gradients in the liquid
2. The liquid enhancement factor is the ratio of the actual rate to the
 - a. rate of diffusion in the liquid
 - b. rate of diffusion to the liquid
 - c. rate of diffusion if there were no reaction taking place
 - d. rate of absorption if there were no reaction taking place
 - e. rate of reaction if there were no concentration gradients in the liquid
3. True or False? The Hatta number for gas-liquid reactions is analogous to the Thiele modulus for heterogeneous catalytic reactions.
4. The two film model for gas liquid reactions assumes (choose all that apply)
 - a. phase equilibrium at the interface
 - b. mass transport only by diffusion in the films
 - c. reactants are both supplied in the gas phase but diffuse into the liquid phase to react
 - d. liquid at the surface is periodically replaced by fresh liquid from the bulk of the fluid
 - e. the time spent by the liquid at the interface is described by an age distribution function
5. The surface renewal model for gas liquid reactions assumes (choose all that apply)
 - a. phase equilibrium at the interface
 - b. mass transport only by diffusion in the films
 - c. reactants are both supplied in the gas phase but diffuse into the liquid phase to react
 - d. liquid at the surface is periodically replaced by fresh liquid from the bulk of the fluid
 - e. the time spent by the liquid at the interface is described by an age distribution function