A First Course on Kinetics and Reaction Engineering

Unit 3 Additional Quiz Questions

1. True or False? The equilibrium constant for a reaction will vary with pressure.
2. True or False? The equilibrium composition may vary with pressure.
3. Which of the following equations is used to calculate the equilibrium constant at temperatures other than 298 K?

    a. $K_j(T) = K_j(298 \text{ K}) \exp\left\{ \int_{298 \text{ K}}^{T} \frac{\Delta G_j^0(T)}{RT^2} dT \right\}$

    b. $K_j(T) = \Delta G_j^0(T) \exp\left\{ \int_{298 \text{ K}}^{T} \frac{\Delta H_j^0(T)}{RT^2} dT \right\}$

    c. $K_1 = \exp\left\{ \frac{-\Delta G_1^0(298 \text{ K})}{RT} \right\}$

    d. $K_j(T) = K_j(298 \text{ K}) \exp\left\{ \int_{298 \text{ K}}^{T} \frac{\Delta H_j^0(T)}{RT^2} dT \right\}$

    e. none of the above