Assessment 9

The following questions are based on the assignment from previous weeks. As your answers may vary, you must submit this assignment.

Due on 2020-04-01, 23:59 IST.

1. According to Raoult’s law for gas in solution, if the pressure of a low and an immiscible surface are approximately equal then:
   - Vapor and liquid phases can be treated as ideal.
   - Vapor and liquid phases can be treated as non-ideal.
   - Vapor and liquid phases cannot be treated as ideal.
   - Vapor and liquid phases cannot be treated as non-ideal.
   
   **Answer:** Vapor and liquid phases can be treated as ideal.

2. The expression \( p = p^* \) is a critical point, where \( p^* \) depends on:
   - Temperature only.
   - Composition only.
   - Temperature and pressure of system.
   - Temperature and pressure of a separate phase.
   
   **Answer:** Temperature and pressure of a separate phase.

3. A solution of gas in water is at equilibrium. Which of the following states is not correct?
   - The pressure of the solution is equal to the sum of the pressures of the constituents in the solution.
   - The solute is dissolved in the solvent.
   - The solution is in thermodynamic equilibrium.
   - The solution is in kinetic equilibrium.
   
   **Answer:** The solution is in kinetic equilibrium.

4. According to Raoult’s law for gas in solution, if the pressure of a low and an immiscible surface are approximately equal then:
   - Vapor and liquid phases can be treated as ideal.
   - Vapor and liquid phases can be treated as non-ideal.
   - Vapor and liquid phases cannot be treated as ideal.
   - Vapor and liquid phases cannot be treated as non-ideal.
   
   **Answer:** Vapor and liquid phases can be treated as non-ideal.

5. The expression \( p = p^* \) is a critical point, where \( p^* \) depends on:
   - Temperature only.
   - Composition only.
   - Temperature and pressure of system.
   - Temperature and pressure of a separate phase.
   
   **Answer:** Temperature and pressure of system.

6. According to Raoult’s law for gas in solution, if the pressure of a low and an immiscible surface are approximately equal then:
   - Vapor and liquid phases can be treated as ideal.
   - Vapor and liquid phases can be treated as non-ideal.
   - Vapor and liquid phases cannot be treated as ideal.
   - Vapor and liquid phases cannot be treated as non-ideal.
   
   **Answer:** Vapor and liquid phases can be treated as non-ideal.

7. A solution of gas in water is at equilibrium. Which of the following states is not correct?
   - The pressure of the solution is equal to the sum of the pressures of the constituents in the solution.
   - The solute is dissolved in the solvent.
   - The solution is in thermodynamic equilibrium.
   - The solution is in kinetic equilibrium.
   
   **Answer:** The solution is in kinetic equilibrium.

8. According to Raoult’s law for gas in solution, if the pressure of a low and an immiscible surface are approximately equal then:
   - Vapor and liquid phases can be treated as ideal.
   - Vapor and liquid phases can be treated as non-ideal.
   - Vapor and liquid phases cannot be treated as ideal.
   - Vapor and liquid phases cannot be treated as non-ideal.
   
   **Answer:** Vapor and liquid phases can be treated as non-ideal.

9. The expression \( p = p^* \) is a critical point, where \( p^* \) depends on:
   - Temperature only.
   - Composition only.
   - Temperature and pressure of system.
   - Temperature and pressure of a separate phase.
   
   **Answer:** Temperature and pressure of a separate phase.

10. According to Raoult’s law for gas in solution, if the pressure of a low and an immiscible surface are approximately equal then:
    - Vapor and liquid phases can be treated as ideal.
    - Vapor and liquid phases can be treated as non-ideal.
    - Vapor and liquid phases cannot be treated as ideal.
    - Vapor and liquid phases cannot be treated as non-ideal.
    
    **Answer:** Vapor and liquid phases can be treated as non-ideal.

11. A solution of gas in water is at equilibrium. Which of the following states is not correct?
    - The pressure of the solution is equal to the sum of the pressures of the constituents in the solution.
    - The solute is dissolved in the solvent.
    - The solution is in thermodynamic equilibrium.
    - The solution is in kinetic equilibrium.
    
    **Answer:** The solution is in kinetic equilibrium.

12. According to Raoult’s law for gas in solution, if the pressure of a low and an immiscible surface are approximately equal then:
    - Vapor and liquid phases can be treated as ideal.
    - Vapor and liquid phases can be treated as non-ideal.
    - Vapor and liquid phases cannot be treated as ideal.
    - Vapor and liquid phases cannot be treated as non-ideal.
    
    **Answer:** Vapor and liquid phases can be treated as non-ideal.

13. The expression \( p = p^* \) is a critical point, where \( p^* \) depends on:
    - Temperature only.
    - Composition only.
    - Temperature and pressure of system.
    - Temperature and pressure of a separate phase.
    
    **Answer:** Temperature and pressure of system.

14. According to Raoult’s law for gas in solution, if the pressure of a low and an immiscible surface are approximately equal then:
    - Vapor and liquid phases can be treated as ideal.
    - Vapor and liquid phases can be treated as non-ideal.
    - Vapor and liquid phases cannot be treated as ideal.
    - Vapor and liquid phases cannot be treated as non-ideal.
    
    **Answer:** Vapor and liquid phases can be treated as non-ideal.