Assignment 7

1. Consider the following statement and determine the correct option:

- (a) A small but consistent increase in temperature is observed.
- (b) A small but consistent decrease in temperature is observed.
- (c) No change in temperature is observed.

2. The experimental setup used to determine the concentration of an unknown compound is described in a text book.

- (a) The setup is described in detail in Section 4.3 of the textbook.
- (b) The setup is described in detail in Chapter 5.2 of the textbook.
- (c) The setup is described in detail in Appendix B of the textbook.

3. Thermometry is a crucial tool for which of the following purposes:

- (a) Measuring the temperature of a substance.
- (b) Measuring the pressure of a gas.
- (c) Measuring the volume of a liquid.

4. In the T-N curve of a solution, the slope of the curve is:

- (a) Constant.
- (b) Increasing.
- (c) Decreasing.

5. What is the following rule referred to as:

- (a) The Nernst equation.
- (b) The Boltzmann distribution.
- (c) The Arrhenius equation.

6. Choose the correct description of a colorimeter:

- (a) A device used to measure the intensity of light.
- (b) A device used to measure the concentration of a substance.
- (c) A device used to measure the wavelength of light.

7. The Arrhenius equation is used to:

- (a) Calculate the rate of a chemical reaction.
- (b) Calculate the concentration of a solution.
- (c) Calculate the pH of a solution.

8. The pH of a 0.1 M hydrochloric acid solution is:

- (a) 0.1.
- (b) 1.0.
- (c) 14.0.

9. The concentration of a solution is:

- (a) The mass of solute per unit volume of solution.
- (b) The volume of solute per unit mass of solution.
- (c) The number of solute particles per unit volume of solution.

10. In an EDTA titration, the indicator is:

- (a) Phenolphthalein.
- (b) Methyl red.
- (c) Phenyl red.

11. In the spectrophotometric analysis of a solution, the absorbance is:

- (a) The intensity of light passing through the solution.
- (b) The intensity of light absorbed by the solution.
- (c) The intensity of light transmitted by the solution.

12. The pH of a 0.1 M hydrochloric acid solution is:

- (a) 0.1.
- (b) 1.0.
- (c) 14.0.

13. The Arrhenius equation is used to:

- (a) Calculate the rate of a chemical reaction.
- (b) Calculate the concentration of a solution.
- (c) Calculate the pH of a solution.