

Assignment II
CHE-303
Sem V 2017
Unit Test II

Unit-I

Long Questions:

Exa.1 The vapour pressure at 95⁰ C is 634 mm. Calculate the latent heat of vapourization.

Exa. 2 At 1.0 atm. Boiling point of ether is 33.5⁰C. What will be its boiling point at 750 mm pressure?

Exa. 3 The molar heat of vapourization of water is 9720 cal. Entropy change for evaporation is 26.1 e.u. Is it possible to evaporate water at 30⁰C?

Exa. 4 The boiling point of water is 100.37⁰C at 770 mm. Find out boiling point at 760 mm with the help of Craft equation. (C=0.00010).

Exa.5 At 27⁰C temperature, for the reaction $N_{2(g)} + O_{2(g)} \leftrightarrow 2NO_{2(g)}$, $\Delta H=10$ Kcal/mol and $\Delta S=0.1$ Cal.deg⁻¹mol⁻¹. Find out equilibrium Constant of a reaction.

Unit: II-A [ELECTRO CHEMISTRY]

Long Questions:

Q.1 Derive Nernst's equation for determination of oxidation potential of single electrode of non metal oxidation.

Q.2 Write a note on equilibrium constant (K).

Q.3 Write a note on hydrolysis constant of salt (K_h).

Q.4 Write a note on constant of solubility product. (K_{SP}).

Q.5 Write a note on Ionic product of water (K_W).

Short Questions:

- (1) Define equilibrium constant (K).
- (2) Define hydrolysis constant of salt(K_h).
- (3) Define Ionic product of water(K_W).
- (4) Define constant of solubility product. (K_{SP}).
- (5) Define solubility

Unit-III (A) (Chemical Kinetics)

Long Questions:

1. Explain about absolute rate or Transition state theory of reaction rate.
2. Discuss about primary salt effect.
3. Discuss about secondary salt effect.

4. Discuss the kinetics of heterogeneous gas reactions.
5. Give a short note on retardation of surface reactants.

Unit- IV (B) Molecular spectra

Long Questions:

- (1) Write a note on Pure rotational spectra.
- (2) Write a note on Vibrational-Rotational spectra.
- (3) Write a note on Electronic transition (Relation of potential energy graph with Electronic spectrum).
- (4) Write a note on Ortho and Para hydrogen.

Short Questions:

Define the term: Wavelength, Frequency, Ortho hydrogen and Para hydrogen