Assignment
CHE-202
Sem III 2017
Unit Test II

Unit-I (A) Chemical Kinetics

Long Questions:

(1) Explain Collision theory of molecular gases reaction.
(2) Explain activated complex theory of molecular reaction.
(3) Explain the effect of temperature on reaction rates.
(4) Explain the derivation of Arrhenius equation.

Example:
(1) When 0.5gm Oxygen gas and 0.5gm N_2 gas mixed together at 1bar pressure, Calculate its entropy change.(R=8.314)
(2) At 273°K temp and 1bar pressure 80gm ice is converted into water. If latent heat of fusion is 1440 cal/mol. Calculate entropy change.
(3) The free energy change of reaction at 25°C is -25000 cal and 35°C is -20000 Cal, Calculate entropy change at 30° C temp.

UNIT: II (B) Phase Rule

Long Questions:

Q.1 Define Phase Rule.
Q.2 Discuss terms Phase, Components, Degree of freedom.
Q.3 Discuss Water system.
Q.4 Discuss Pb-Ag system.

Short Questions:

Define the followings.
(1) Condensed Phase rule.
(2) Critical point.
(3) Critical temperature.
(4) Critical pressure.
(5) Tripal point.
(6) What is Poly morphisam?
(7) What is Allotropy?

UNIT- III (A) (Adsorption)

Long Questions:

Q.1. Explain the term: Adsorption
Q.2 Explain the term: Absorption
Q.3 Explain different types of Adsorption.
Q.4 Give the difference between Adsorption and Absorption
Q.5 Discuss about different types of adsorption isotherms.
Q.6 Explain Freundlich adsorption isotherm.

Q.7. Discuss about Langmuir adsorption isotherm.

Short Questions:

Q.1. Give the definition of

(a) Adsorption
(b) Adsorbent
(c) Absorption
(d) Sorption

Q.2. What are the limitations of Freundlich adsorption isotherm?

Unit-IV (B) Colloids

Long Questions:

1. Discuss Tyndall effect.
2. Discuss Electrical dispersion.
3. What are Colloids? Discuss Colloidal system.
4. Discuss Condensation method.
5. Discuss Optical and Electro-kinetic Properties of Colloids.
6. Discuss Electro-osmosis of Colloids.
7. Discuss Gold number and stabilizing power of Lyophillic solutions.
8. Discuss properties of Colloidal systems.

Short Questions:

Define the terms: True solution, Lyophillic solutions,Colloidal Solution,Hydrophilic Solution, electroosmosis, Schulze-Hardy law