

Assignment
CHE-310
Sem VI 2018
Unit Test I & II

UNIT -I :-

*** Questions for Long Answer**

- (1) Explain Types of errors.
- (2) Discuss Accuracy and Precision with example.
- (3) Short note: Correlation Coefficient.
- (4) Write literature of analytical chemistry.
- (5) Discuss use of OXINE in inorganic analysis.

UNIT- II:-

[B] Solvent Extraction Separation:

*** Questions for Long Answer**

- (1) Explain distribution coefficient and distribution ratio.
- (2) Explain for any soluble substance 100% extraction is not possible.

Unit-III:-

[B] Potentiometry

*** Questions for Long Answer**

- (1) What is Potentiometry and write various scope of potentiometric titration?
- (2) Give several advantages of this Potentiometric titration over ordinary titrations.
- (3) Write a note on : Construction of cell for potentiometric titration
- (4) Write a note on : acid base potentiometric titration
- (5) Write a note on :Oxidation-reduction Potentiometric titration
- (6) Determine Standard potential of $E^0_{\text{Fe}^{2+}/\text{Fe}^{3+}}$.
- (7) Write a note on: Precipitation titration
- (8) Write a note on: Grans plot method
- (9) Write a note on: Differential titration
- (10) Write a note on: Ion selective electrode
- (11) What is ion selective electrode? Give advantages and disadvantages of ion selective electrode.
- (12) Write a note on: Selectivity Ratio
- (13) Write a note on: Dead stop end point method/polarisation method

Unit —IV

[B] Redox Titration

*** Questions for Long Answer**

- (1) Define the term: Oxidation, Reduction, Redox titration Iodimetry titration, Iodometry titration
- (2) Derive equilibrium constant by using Nernst equation.
- (3) Calculate potential at various stages of titration when 50ml 0.01M solution of Fe^{+2} is titrated with 0.1M Ce^{+4} Solution.

- (4) Calculate potential at various stages of titration when 100ml 0.5N Sn^{+2} titrate with 0.1N Ce^{+4} titration.
- (5) Derive equation $n_1E^0_1 + n_2E^0_2 / n_1 + n_2$
- (6) Discuss about Redox indicator.
- (7) Derive equation for equivalence point, when Fe^{+2} titrate with MnO_4^- .
- (8) Derive equation for equivalence point, when Fe^{+2} titrate with $\text{Cr}_2\text{O}_7^{-2}$.
- (9) Derive equation for equivalence point, when Fe^{+2} titrate with Br_2 .
- (10) Differentiate Iodimetry titration and Iodometry titration.
- (11) Write a note on Titrations with oxidising agents.
- (12) Write a note on Titrations with reducing agents.
- (13) Write a note on Zimmermann-Reinhardt reagent.
- (14) Write a note on Metal Reductor.
- (15) Write a note on Determination of COD.

[C] Complexometric titration:

- (1) Explain different types of EDTA.
- (2) How will you determine hardness of water using EDTA titration?
- (3) Why we use EDTA as a standard in Complexometric titration?
- (4) How can we increase selectivity of EDTA titration?
- (5) Explain about metallochromic indicators and its mechanism.

Short Questions:

- (a) Give the full name of EDTA.
- (b) Give the two name of metallochromic indicators.
- (c) What are the conditions in which we use back titration?