

### Unit – III Oxidant systems – Principles and applications in analysis

Analytical chemistry of some selected oxidant systems – formal, standard and normal potentials in various media, species responsible for the oxidation properties, stability of the solutions, standardization, requirement for the selections of the oxidants, selection of suitable indicators for Oxidant systems.

- a) Inorganic Systems Mn (III), Mn (VII), Ce (IV), Cr (VI), V (V), periodate, iodate,
- b) Organic Systems chloramine-T.

### Unit – IV Organic Functional group analysis

Classification of functional groups with suitable examples.

Determination of:

- 1) Functional groups imparting acidic nature – thiol, enediol, phenolic hydroxyl.
- 2) Functional groups imparting basic nature – Aliphatic and Aromatic primary, secondary and tertiary amines – hydrazine derivatives.
- 3) Functional groups which impart neither acidic nor basic nature – Aldehydes, Ketones, Nitro, Methoxy, Olefinic.

#### Text books:

1. Technical methods of analysis – Griffin, Mc Graw Hill Book Co.
2. Chemical Separation and measurements – D.G Peterseti, John M.Haves Sanders Co.
3. Chemical analysis – H.A Laitinan, Mc Graw Hill Book Co.
4. Newer redox titrants – Berka, Zyka and Vulterin, Pergamon Press
5. Volumetric Analysis, Vol III – I.M Kolthoff and R.Belvher, Interscience Public, New York
6. Vogel's Text Book of Inorganic Quantitative Analysis – J.Bassett et al, ELBS
7. Organic functional groups – S.Siggia

#### Reference Books:

1. D.A Skoog, D.M West and F.J Holler, Analytical Chemistry, An Introduction, Sande College Publishing, New York
2. K.V.S.G Murali Krishna, An Introduction ISO 9000, ISO 1400 Series, Environmen Management
3. Quality Assurance and Good Laboratory Practices, Prof. Y. Anjaneyulu, In Now Publicati New York
4. Quality Assurance in Analytical Chemistry – G.Kateman and F.W Pijpers, John Wiley Sons, New York
5. Quantitative Chemical Analysis – I.M Kolthoff, E.B Sandel, E.J Meehan, S. Bruckens Macmillan Company, London
6. Decomposition Techniques in Inorganic Analysis – J.Dolezal, P.Povondra, Z.Sulcek