M.Sc.Sem. 1 (Inorganic Practicals)

1.   Inorganic Qualitative Analysis:

        (Six elements including ONE rare element)

2.   Inorganic Preparation:

        i. Hexa-amine nickel (II) chloride

        ii. Mohr's salt (Ferrous Ammonium sulphate)

        iii. Sodium trioxalato ferrate trihydrate

        iv. Sodium cobaltinitrite

        v. Tetra amine cupric silphate

        vi. Reineek's salt (Ammonium tetrathiocyanate diamine Chromate)

Reference Book:

1. A textbook of practical inorganic chemistry – A.I.Vogel

2. Practical Chemistry by Dr.O.P.Pandey,D.N.Bajpai, Dr.S.Giri

3.Advance inorganic analysis by Agarwal, Keemti lal

4. Qualitative Inorganic analysis – Vogel

5.Inorganic practical by Chatwal and Anand

M.Sc. Semester – I (ORGANIC PRACTICALS)
1. Mixture analysis: (Minimum eight mixtures) Ternary mixture to be given. (S+S+S),

Semisolids or (L+L+L). Type determination.Separation by physical and chemical
methods. (both permitted in case of liquids)
2. Paper Chromatography

Reference book:
1. A text book of practical organic chemistry – A. I. Vogel
2. Practical organic Chemistry – Mann and Saunders
3. A handbook of quantitative and qualitative analysis – H. T. Clarke
4. Comprehensive Practical Organic Chemistry: Qualitative Analysis V K Ahluwalia &
S. Dhingra.
5. Comprehensive Practical Organic Chemistry: Preparations and Quantitative Analysis V K
Ahluwalia & R. Aggarwal Universities Press.
6. An Advance Course in practical Chemistry, A K. Nad, B. Mahapatra and A. Ghoshal.

SEMESTER -I
GROUP-C PHYSICAL PRACTICAL (Any Six)

1. Determine the dissociation constants of a given dibasic acid pH-metrically.

2. Determine the amount of ferrous sulphate / ferrous ammonium sulphate in given flask potentiometrically using cerric salt solution.

3. Verification of Onsager's equation and determination of equivalent conductance at infinite dilution of strong electrolytes

4. Determine the CMC of a surfactant by conductivity measurements.

5. Calculate the molar absorptivity of each of the given two solutions (A) and (B) and also find out concentration of supplied unknown solution colorimetrically.

6. Investigation the reaction between $K_2S_2O_8$ and KI at two different temperatures and calculate the energy of activation for the reaction.

7. To study the phase diagram of a three component system Water – acetic acid – chloroform.

8. Determination of CMC and area per molecule of a surfactant by surface tension measurement.

9. Determine the molecular weight of a given polymer from viscosity measurement.

Note : For instrumental analysis, solution should be prepared by the candidate.