

B.Sc. III Year
Paper-XXI (CH-307) Practical

Max.Marks:60

Time: 7 Hrs.

(One day in two sessions i.e. 9:00AM-12:30PM and 1:30PM-5:00PM)

Section- A (Inorganic)

Semi micro qualitative analysis of mixture containing not more than four radicals (excluding interfering, Combinations and insoluble):

Pb²⁺, Hg²⁺, Hg₂²⁺, Ag⁺, Bi³⁺, Cu²⁺, Cd²⁺, As³⁺, Sb³⁺, Sn²⁺, Fe³⁺, Cr³⁺, Al³⁺, Co²⁺, Ni²⁺, Mn²⁺, Zn²⁺, Ba²⁺, Sr²⁺, Ca²⁺, Mg²⁺, NH₄⁺, CO₃²⁻, S²⁻, SO₃²⁻, S₂O₃²⁻, NO₂⁻, CH₃COO⁻, Cl⁻, Br⁻, I⁻, NO₃⁻, SO₄²⁻, C₂O₄²⁻, PO₄³⁻, BO₃³⁻

Section-B (Physical)

1. To determine the strength of the given acid solution (mono acid only) conduct metrically.
2. To determine the solubility and solubility product of a sparingly soluble electrolyte conduct metrically.
3. To determine the strength of given Ferrous ammonium sulphate solution potentiometrically.
4. To determine the molecular weight of a non-volatile solute by Rast method.
5. Preparation of acidic and basic buffers and comparison of their pH with theoretical values.
6. To determine the specific rotation of optically active substance (any two).

Section-C (Organic) 1 .

Thin Layer Chromatography

(Determination of R_f values and identification of organic Compounds)

Separation of a mixture of colored organic compounds using common organic solvents.

2 . To separate the binary liquid mixtures using distillation.

3 Synthesis of the following organic compounds:

- (a) To prepare salicylic acid from Aspirin.
- (b) To prepare p-bromoaniline from p-bromoacetanilide.
- (c) To prepare m-nitroaniline from m-dinitrobenzene.
- (d) To prepare S-Benzyl-iso-thiuronium chloride from Thiourea.

Distribution of marks

1.	.	Section- A	15 marks
2.	.	Section- B	15 marks
3.	.	Section- C	15 marks
4.	.	Viva- voce	05 marks
5.	.	Lab Record	10 marks