

SEMESTER-II
PHYSICAL CHEMISTRY- II
PRATICAL SYLLABUS

Programme: M.Sc.
Course code P20/CHE/DSC/203/P
Course type: DSC-7
No. of credits: 2

Max marks: 50
No. of Hrs./Week: 4 Hrs

COURSE OUTCOMES:

- Distribution of I₂ between hexanes cyclo hexane /CCl₄ and aq.Ksolution- calculation of equilibrium constant.
- Determination of equilibrium constant of KI₃ ⇌ KI + I₂ by partition coefficient
- The student will be able to understand practical knowledge on conductance with respect to strong acid and strong base.

Distribution:

- 1) Distribution of I₂ between hexanes / cyclo hexanes / CCl₄ and aq.KI solution- calculation of equilibrium constant.
- 2) Study of complex formation between ammonia and metal ion

Chemical Kinetics

- 1) Stoichiometry of peroxydisulphide- iodide reaction
- 2) Peroxydisulphide- iodide reaction: order w.r.t [I⁻] by isolation method
- 3) Peroxydisulphide- iodide reaction: order w.r.t [S₂O₈²⁻] by initial rate method

Instrumentation:

Conductometry:

- 1) Titration of a mixture of strong and weak acids vs strong base
- 2) Determination of the hydrolysis constant of aniline hydrochloride
- 3) Determination of solubility product

REFERENCES:

1. Senior Practical Physical Chemistry: B.D. Khosla, V.C. Garg and A. Khosla
2. Experimental Physical Chemistry: V. Athawale and P. Mathur.
3. Practical Physical Chemistry: B. Vishwanathan and P.S. Raghavan.
4. Practical in Physical Chemistry: P.S. Sindhu
5. Advanced Practical Physical chemistry: J.B. Yadav
6. Vogel Text book of Quantitative Analysis, 6th edition, Pearson education Ltd. 2002

SEMESTER -II
PHYSICAL CHEMISTRY
PRACTICAL MODEL PAPER

COURSE CODE:P20/CHE/DSC/203/P
Credits: 2

Time: 3Hrs
Max Marks: 50

1) Write the principle involved in the given experiment. (CO1, CO2,CO3) **10 M**

2a) Determine Conductometrically
The strength of the acids in the given acid mixture /
Hydrolysis constant of aniline hydrochloride /Solubility product

OR

b) Determine the equilibrium constant of a Complex using Nernst Distribution Law.

OR

c) Kinetic study of Individual order of a reaction by the Isolation method Initial rate method & plot an appropriate graph. (CO1, CO2 & CO3) **25 M**

3) Record and Attendance **5 M**

4) Viva -- (CO1,CO2,CO3) **10 M**