SEMESTER-I

PHYSICAL CHEMISTRY-I

PRACTICAL SYLLABUS

Program: M.Sc **Max marks : 50**
Course Code:P20/CHE/DSC/103/P **No of Hrs/Week:4Hrs**
No. of Credits : 2

COURSE OUTCOME:

CO1: Distribution of acetic acid between n-butanol and water
CO2: Determination of rate constant of the oxidation of iodide ion with Persulphate ion.
CO3: Determination of critical solution temperature of phenol-water system Study of the effect of electrolyte on the miscibility of phenol-water system
CO4: Understand practical knowledge on conductance with respect to strong acid and strong base.

Distribution Experiment
Distribution of acetic acid between n-butanol and water

Chemical Kinetics:
Acid-catalyzed hydrolysis of methyl acetate
Peroxydisulphate- I- reaction (overall order)
Oxidation of iodide ion by hydrogen peroxide- iodine clock reaction

Adsorption and others:
Adsorption of acetic acid on animal charcoal or silica gel
Determination of critical solution temperature of phenol-water system
Effect of added electrolyte on the CST of phenol-water system
Determination of molecular weight o f a polymer by viscometry.

Conductometry:
Titration of strong acid vs strong base
Titration of weak acid vs strong base
Determination of cell constant
Determination of dissociation constant of a weak acid

Reference Books:

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

SEMESTER -I

PHYSICAL CHEMISTRY-I

PRACTICAL MODEL PAPER

CourseCode:P20/CHE/DSC/103/P **Max Time: 3 Hrs**
Credits:2 **Max Marks: 50**

1) Write the principle involved in the given experiment.(CO1, CO2, CO3,CO4) **10 M**

2) a) Determine the strengthof the given acid/Cell Constant/Dissociation constant of a weak Acid using a Conductometer.

OR

b) Determine the distribution coefficient of a solute using Nernst Distribution Law

OR

c) Determine the percentage of Adsorption of a substance on animal charcoal.

OR

d) Determine the critical solution temperature of phenol-water system

OR

e) Kinetic Study of 1st Order / 2nd Order Reactions (CO1,CO2&CO3,CO4) **25 M**

3) Record and Attendance **5 M**

4) Viva Voce (CO1,CO2,CO3 & CO4) **10 M**