SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN (AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.
B.Sc. END SEMESTER EXAMINATION APRIL/NOV - 2021
SEMESTER - V
17UCHCT5011 - Physical Chemistry - I

Total Duration : 3 Hrs	**Total Marks : 75**
MCQ : 30 Mins	MCQ : 15
Descriptive : 2 Hrs.30 Mins	Descriptive : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks$)$

1. Derive Duhem Margules equation.

2. With neat sketch explain the phase diagram of lead silver system.

3. Derive the expression for rate constant of second order reaction with equal concentration of reactants.

4. Explain the theory of absolute reaction rate.

5. Enumerate and explain the applications of adsorption.

6. Distinguish homogenous and heterogeneous catalysis.

7. Discuss the effect of temperature on reaction rate.

8. Explain Nernst distribution law.

Section C

Answer any **THREE** questions $(3 \times 10 = 30$ Marks$)$

9. Explain the vapour pressure —composition diagram of azeotrpic mixture.

10. Draw and explain the phase diagram of sulphur system.

11. Discuss the various methods to determine the order of reaction.

12. Briefly explain the kinetics of uni molecular surface reactions.

13. Write note on
    a. Collision theory b. BET isotherm