

Roll No.							
----------	--	--	--	--	--	--	--

**24-CH-23**

**M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION  
JUNE - JULY 2024**

**CHEMISTRY**  
**Paper - III**  
**[Physical Chemistry - II]**

*[Max. Marks : 75]**[Time : 3:00 Hrs.]**[Min. Marks : 26]*

**Note :** Candidate should write his/her Roll Number at the prescribed space on the question paper.  
Student should not write anything on question paper.  
Attempt five questions. Each question carries an internal choice.  
Each question carries **15 marks**.

**Q. 1** Discuss any two in detail -

- i) Pyrolysis of Acetaldehyde.
- ii) Homogenous Catalysis.
- iii) R.R.K.M. (Rice Ramsperger Kassel Marcus).

**OR**

Discuss study of fast reactions by flow method, relaxation method flash photolysis and NMR method.

**Q. 2** Write notes on (**any two**) -

- i) Micellization.
- ii) Surface tension.
- iii) Classification of surface active agents.
- iv) Surface films on liquids.

**OR**

Define Gibbs adsorption isotherm.

**Q. 3** Discuss Kinetics and mechanism of Polymerization.

**OR**

How will you do molecular mass determination. Explain all the four methods in detail.

**P.T.O.**

**Q. 4** Write in detail about -

- i) Entropy production and entropy flow.
- ii) Electro kinetic phenomenon and electric conduction.

**OR**

Discuss and Define Onsager reciprocity relations.

**Q. 5** Derive Butler Volmer equation and discuss Tafel plot.

**OR**

Discuss half wave potential and its significance.

\_\_\_\_0\_\_\_\_