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**25-PC-23**

**M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION  
MAY - JUNE 2025**

**PHARMACEUTICAL CHEMISTRY**

Paper - III

**[Principles of Physical Pharmacy - 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 all five questions. Each question carries an internal choice.  
Each question carries **15 marks**.

**Q. 1** What do you understand by Rheology ? Explain Newtonian system in detail. (15 Marks)

**OR**

Write a detail note on - (5 Marks each)

- i) Viscoelasticity.
- ii) Psychorheology.
- iii) Application of Rheology.

**Q. 2 a)** Explain drug Kinetics in coarse disperse system. (7½ Marks)

**b)** Explain drug diffusion in coarse disperse system. (7½ Marks)

**OR**

What do you understand by Emulsion. Explain Physical stability and Rheological properties of Emulsion. (15 Marks)

**Q. 3** What are Prodrug ? Explain its classification and application in Pharmacy. (15 Marks)

**OR**

Write a detail note on -

- i) Nasal Administration of drug. (8 Marks)
- ii) Buccal Administration of drug. (7 Marks)

**Q. 4** Define Polymer, also explain method of polymerization in Homogeneous and Heterogeneous system. (15 Marks)

P.T.O.

**OR**

- a)** Explain classification of polymer on the basis of structure. **(8 Marks)**
- b)** Write a note on Polymer as thickening agent. **(7 Marks)**

**Q. 5** Define Glass transition temperature and explain method of determination of glass transition temperature and its importance. **(15 Marks)**

**OR**

Explain in detail - **(5 Marks each)**

- i) Plastics.
- ii) Elastomers.
- iii) Biomedical Polymer.

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