

DEPARTMENT OF PHARMACEUTICAL SCIENCES & TECHNOLOGY

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(Internal Assessment I)

CLASS: BPHARM
BRANCH: PHARMACY

SEMESTER: IV
SESSION: SP 2025

SUBJECT: BP403T PHYSICAL PHARMACEUTICS - II

TIME: 2.00 Hour

FULL MARK: 30

PART I

A. Objective type questions (Answer all questions) (5 x 02 = 10 marks)

1. Write down the general formula of elimination half-life for various rate kinetics processes.
2. Write down the assumptions for Heckle equation applicable for tablet compression study.
3. Write down the unit of apparent zero order rate constant.
4. Define aggregation number.
5. Define gold number.

PART II

B. Long Answers (Answer any one out of two) (01x10=10 marks)

1. Derive the second order rate kinetics equation where the initial molar concentration of both the reactants is different.
2. Classify dispersed systems with suitable examples. Discuss in detail the kinetic properties of colloids.

PART III

C. Short Answers (Answer any two out of three) (02x05=10 marks)

1. Discuss the various methods to measure the thixotropy.
2. Explain why the degradation from a suspension follows the apparent zero order rate kinetics process.
3. Compare different types of colloidal sols based on their properties. Enlist any five differences.

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