

B.Pharm Third Semester
35149 : Physical Pharmaceutics - I : 3.1

P. Pages : 1

Time : Three Hours



AV - 2327

Max. Marks : 60

- Notes :
1. All question carry equal marks.
 2. Answer **any five** questions.
 3. Assume suitable data wherever necessary.
 4. Illustrate your answer necessary with the help of neat sketches.

1. a) Describe the shapes of solid crystals, differentiate between crystalline & amorphous solids. 6
- b) Discuss X-Ray crystallography in details. 6

OR

What do you mean by liquefaction of gases? Describe the principles to bring about liquefaction & Add a note on Claudis process & Linde's process. 12

2. Enlist & describe the factors affecting solubility of weak electrolytes in details. 12

3. a) State & explain second law of thermodynamics & derive the equation for efficiency of heat engine. 6

- b) State & explain First Law of thermodynamics and derive the equations for work of expansion at constant pressure. 6

4. a) Define colloids, classify them & give a comparative account of their properties. 6

- b) Describe the optical properties of colloids in details. 6

5. a) Define the following terms :- **any three**. 6

- 1) Rate of reaction
- 2) Order of reaction.
- 3) Molecularity of reaction
- 4) Parallel Reactions
- 5) Pseudo-order reactions.
- 6) Complex Reactions.

- b) Discuss first order Reaction in details. 6

6. Discuss the settling in suspensions in details. 12

7. Write notes on **any three**. 12

- a) Hydrogen Bonds.
- b) Solubility of Gases in Liquids.
- c) Creaming & cracking.
- d) Phase Inversion.
- e) Electrokinetic phenomenon
