

**Total No. of Pages : 02**

### B. Pharma (2011 to 2016) (Sem.-4)

**(Physical Pharmacy)**

**Subject Code : BPHM-405**

**Paper ID : [D1144]**

**Max. Marks : 80**

1. **SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.**

## SECTION-A

**1. Answer briefly :**

- a. Differentiate between bulk density and true density
- b. Define latent heat.
- c. Define optical microscopy.
- d. Define specific solubility.
- e. Define angle of repose.
- f. Explain surface free energy with an example.
- g. Differentiate between adsorption and absorption.
- h. Differentiate between bulk density and true density.
- i. Define the influence of temperature on drug stability.
- j. Define inclusion complexes and mention two examples.

- k. Draw the figures representing pseudo plastic and plastic flow.
- l. Define surface active agents.
- m. Mention the Arrhenius equation and its utility.
- n. What is contact angle?
- o. Define half-life.

### SECTION- B

- 2. Define emulsion types with applications.
- 3. Define accelerated stability study.
- 4. Methods of determining surface area and permeability properties of powder
- 5. Pharmaceutical Applications of complexes.
- 6. Different methods for adjusting tonicity.

### SECTION-C

- 7. Discuss the electrical properties of interfaces.
- 8. Write different methods to determine interfacial tension and surface tension.
- 9. Define buffers in pharmaceutical systems. Explain its relevance in pharmacy.
- 10. Name different types of viscometers. Discuss in detail the principle of working, advantages and disadvantages of rational viscometer.