Printed Pages : 3 **PHAR – 121**

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 5067 Roll No.

B. Pharm.

(SEM. II) EXAMINATION, 2006-07

PHYSICAL CHEMISTRY

(SPECIAL CARRYOVER EXAMINATION)

Time : 3 Hours] *[Total Marks : 80*

Notes : *(1) Attempt **all** the questions.*

*(2) All questions carry **equal** marks.*

1 Attempt any **four** of the following : **4×4**

(a) How does the elevation in boiling point help in determining the molecular weight of a compound ?

(b) What is optical activity ? How can it be measured ?

(c) How is surface tension determined using Stalagmometer ?

(d) Write an account of the kinetic theory of gases.

(e) What are colligative properties ? Give examples of each property.

2 Attempt any **four** of the following : **4×4**

(a) Explain first law of thermodynamics.

(b) Differentiate between reversible and irreversible processes.

(c) Explain Langmuir adsorption isotherm.

(d) What is Joule Thompson's effect ?

(e) Explain the concept of entropy.

3 Attempt any **four** of the following : **4×4**

(a) What are Faraday's laws of electrolysis ? Give their importance.

(b) Differentiate between molecularity and order of a reaction.

(c) Explain collision theory of reaction rates.

(d) Explain briefly Debye Huckel theory.

(e) What are buffer solutions ? What is their importance in pharmaceutical and biological systems.

4 Answer any **two** of the following : **8+8**

(a) Explain Hess's law of constant heat summation. Discuss its applications giving suitable examples.

(b) Define enthalpy of reaction and explain Kirchoff's equation.

(c) What is heat of combustion ? How is it determined using bomb calorimeter ? Discuss applications of the heat of combustion.

5 Answer any **four** of the following : **4×4**

(a) Explain the phase rule.

(b) What do you understand by congruent melting point and Eutectic point ?

(c) Explain distribution law and its limitations.

(d) What is Miller indices ? How is it determined ?

(e) Discuss the classification of crystals with examples.
