



Printed Pages : 3

PHAR – 121

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

PAPER ID : 5067

Roll No.

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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.

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[Contd...

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.

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[Contd...

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.