

Printed Pages : 3



PHARM121

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

**PAPER ID : 150216**

Roll No.

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**B.Pharm.**

(SEM II) THEORY EXAMINATION, 2014-15  
**PHYSICAL CHEMISTRY**

Time : 3 Hours]

[Total Marks : 80

**SECTION - A**

1 Attempt all questions each question carries **1×16=16**

one mark :

- Give Kirchoff's equation \_\_\_\_\_.
- Give the Statement of second law thermodynamics.
- How many components in KI-water system \_\_\_\_\_.
- Unit of surface tension in CGS system \_\_\_\_\_.
- Ostwald viscometer used to determine \_\_\_\_\_.
- Give the unit of specific conductivity \_\_\_\_\_.
- Benzene having Dipole moment \_\_\_\_\_.
- The type of bonding in  $MgCl_2$  \_\_\_\_\_.
- Define adsorption.

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1

[ Contd...

- (j) what is the effect of temperature on viscosity \_\_\_\_\_.
- (k) Water system is a \_\_\_\_\_ component system.
- (l) Give an example of ionic crystal \_\_\_\_\_.
- (m) KBr is an example of \_\_\_\_\_ electrolyte.
- (n) Making ice cubes is an example of exothermic reaction.(True/ False)
- (o) A system which can exchange energy but not matter with its surrounding is called \_\_\_\_\_ system.
- (p) Entropy is defined as \_\_\_\_\_.

### SECTION-B

**2** Attempt **any six** part, each carries 4 marks : **4×6=24**

- (a) What is Hess Law of constant heat summation?
- (b) Discuss phase diagram of water.
- (c) Define Kohlrausch's law. Discuss its application.
- (d) What is adsorption? Describe Freundlich adsorption isotherm.
- (e) What are Miller indices?
- (f) Explain Faraday's law of electrolysis.
- (g) Derive Kinetic Equation of gas.
- (h) Explain in brief:
  - (i) Heat of combustion
  - (ii) Crystalline and amorphous solid.

### SECTION - C

3 Attempt **any four** parts each part carries 10  $10 \times 4 = 40$  marks :

- (a) What is joule Thomson effect give working of Bomb Calorimeters?
- (b) What is meant by transport number of ions? Describe Hittorf's method for the determination of transport number of silver ions.
- (c) Discuss the various type of catalysis and also give detail about enzyme catalysis.
- (d) What are buffer solutions? Derive Henderson-Hasselbalch equation for calculating pH of a buffer solution.
- (e) Write a short note on **any two**:
  - (i) Rheochor
  - (ii) Refractive index
  - (iii) Sublimation critical point