

16378(D)

**B. Pharmacy 3rd Semester Examination**

**Physical Pharmacy-I (NS)**

**BP-233**

**Time : 3 Hours**

**Max. Marks : 70**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**SECTION - A**

*Attempt any two questions.*

1. What are accelerated stability studies? What are the salient features & limitations of the accelerated stability studies?
2. Explain what order of reaction is. Discuss various methods of determination of order of reaction.
3. What is iso-tonicity? How iso-tonicity and pH is adjusted in pharmaceutical formulations? (2×10=20)

**SECTION - B**

*Attempt any eight questions.*

4. Discuss the applications of the phase rule.
5. Explain in detail about Triple Point.
6. What is Joule-Thomson effect? Write its experiment.
7. Write comparison between Isothermal and Adiabatic expansions.
8. Elaborate on Sublimation-critical point and Eutectic mixtures.
9. Define Buffer. Explain in detail Buffer Capacity.

10. Explain Debye Huckle theory in detail.
11. Briefly discuss the solubility of gases in liquids.
12. Write a note on physical degradation of drugs.
13. Write short notes on:
  - (a) free energy functions and its measurement.
  - (b) Liquid complexes. (8×5=40)

**SECTION - C**

*All questions are compulsory.*

14. The kinetic of drug decomposition in a suspension follows:
  - (a) Second order.
  - (b) First order.
  - (c) Zero order.
  - (d) Pseudo zero order.
15. Which of the following describes the gaseous state of matter?
  - (a) A gas has both a definite shape and volume.
  - (b) A gas has a definite shape but not a definite volume.
  - (c) A gas has a definite volume but not a definite shape.
  - (d) A gas has neither a definite shape nor volume.
16. Write a note on Linde's method of liquefaction of gas.
17. How crystalline solid differs from amorphous solids?
18. Write a note on colligative properties. (5×2=10)