

16353(J) 5/16

B. Pharmacy 2nd Semester Examination

Physical Pharmacy-I (CBS)

BP-202

Time : 3 Hours

Max. Marks : 60

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

Note : Answer one question each from section ABCD, and section E is compulsory.

SECTION - A

1. Discuss Kinetic Molecular Theory of Gases. What are its assumptions? (12)
2. Write note on following:
 - (a) Eutectic mixtures
 - (b) Aerosols
 - (c) Liquid Crystals
 - (d) Liquefaction (4×3=12)

SECTION - B

3. (a) What do you understand by Colligative properties? Discuss about various Colligative properties of the solution in detail: (6)
 - (b) Write note on:
 - (1) Parachor
 - (2) Partition Coefficient (2×3=6)
4. (a) Give a brief note on Solubility of Gases in Liquid. (6)
 - (b) Write note on:
 - (1) Asymmetric / Relaxation Effect
 - (2) Electrophoretic Effect (2×3=6)

[P.T.O.]

SECTION - C

5. (a) What are Buffered Isotonic Solutions? Discuss about the Calculations & methods of adjusting isotonicity. (6)
 - (b) Give Clausius Clapeyron Equation. What are its applications? (6)
6. (a) Give procedure for the preparation of pharmaceutical buffer solutions along with their biological applications. (6)
 - (b) Explain Absolute Temp. Scale along with its Conversion rates. (6)

SECTION - D

7. What do you understand by "Order of Reaction"? Give derivation for zero and first order along with their $t_{1/2}$. (12)
8. (a) Discuss about Stability testing of dosage form by Conventional Arrhenius Approach. (6)
 - (b) How chemical decomposition affect the Drug Stability? Give preventive measures also. (6)

SECTION - E

9. (a) Define Polymorphism.
 - (b) What is Free Energy Function?
 - (c) What are various methods for determination of order?
 - (d) Discuss Pseudo-zero order.
 - (e) Write a short note on Partition Coefficient and log P.
 - (f) What is Heat of formation?
 - (g) Give significance of Henderson- Hasselbalch equation,
 - (h) How can you define shelf life of drugs?
 - (i) Define Mole Fraction.
 - (j) What is Osmotic Pressure?
 - (k) What is meant by chemical degradation of drug?
 - (l) Give applications of Chemical Kinetics. (12×1=12)