IMPORTANT QUESTIONS

For

B. Pharmacy Second Year I-Semester

Subject: Physical Pharmaceutics-I

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UNIT-I

Section-I: *Very Short Answer Questions.*

1. Define super saturated solutions and Ideal solutions.
2. Write the applications of Fick's first law of Diffusion in pharmacy
3. State the phase rule.
4. Write the solubility of drug as part of solvent required for a part of solute as per USP.
5. Define and explain any two solubility expressions.
6. Define
   a) CMC
   b) Contact Angle

Section-II: *Short Answer Questions.*

1. Discuss ideal and non-ideal solutions by considering the solvation-association phenomena.
2. Explain Distribution Law and its applications.
3. Discuss the effect of pressure and temperature on solubility of gases in liquid.
4. What are the differences between Ideal and Real Solutions.
5. Define solubility .Explain different factors influencing solubility.
6. Write a note on
   a. Noyes-whitney equation
   b. Dankwert's Model

Section-III: *Long Answer Questions*

1. State and explain the relative lowering of vapour pressure of Roult's law .Explain its limitations.
2. State Gibb's Phase rule. Explain the phase diagram of Phenol water system.

UNIT-II

Section-I: *Very Short Answer Questions.*

1. What are super critical fluids?
2. Define dielectric constant. What is Snell's law?
3. What is common ion effect? Explain.
4. What is Refractive index?
5. Define optical activity and specific rotation.
6. What are solid dispersions?
7. Write about liquid crystalline state and it's applications.

8. Define a) Dissociation constant b) Dielectric constant.

Section-II: *Short Answer Questions.*

1. Explain Dalton's law of partial pressure
2. Explain about Polymorphism and its importance
3. .Write a note on Liquid Crystals.
4. Enlist various methods of liquefaction gases. Explain any two.
5. Write a note on (a) Molar refraction (b) Dipole moment..

Section-III: *Long Answer Questions.*

1. What is Polymorphism? Give 4 examples of drugs exhibiting Polymorphism, Write its significance

UNIT-III

Section-I: *Very Short Answer Questions*

1. Define Detergency with example..
2. Differentiate between cohesive forces and adhesive forces.
3. Give principle of HLB value and its significance
4. Differentiate between physical adsorption and chemisorption
5. Define and explain the uses of surface active agents.

Section-II: *Short Answer Questions.*

1. Describe capillary rise method for determination of surface tension.
2. Write about (a) Ring (Du Nouy) tensiometer method (b) Drop weight and Drop volume method.
3. What is spreading coefficient? Write its applications in pharmacy.
4. .Write the classification of surface active agents.

Section-III: *Long Answer Questions*

1. Describe the measurement of surface tension & write the applications of Surfactants.

UNIT-IV

Section-I: *Very Short Answer Questions*

1. Write the classifications of complexes.
2. Define complexation & chelation.

Section-II: *Short Answer Questions.*

1. Write the applications of complexation in pharmacy.
2. .Explain about Protein binding.
3. Define complexation. What are types of complexes? Write about inclusion complex.
4. Define complexation with the help of suitable example. Describe the following a) Metal complexes b) Occlusion compound.

Section-III: *Long Answer Questions*

1. Define protein binding. Explain its significance. Explain kinetics of protein binding.
2. How the binding of drug to proteins can influence their action? Deduce an equation for scat chard plot for drug-protein interaction.

UNIT-V

Section-I: *Very Short Answer Questions*

1. What is Sorensen's pH scale?
2. What is buffer? Write the buffer equation.
3. What are ampholytes, Give examples?
4. Define Isotonic solutions and Hypotonic solutions.
5. How pH is affected by temperature?
6. Write applications of buffers in pharmacy.
7. What is a buffer? What are its uses? Give examples.

Section-II: *Short Answer Questions.*

1. What is buffer capacity? Write Vanslyke's equation for buffer capacity and maximum buffer capacity.
2. Write about pharmaceutical buffers.

3. How do you measure pH using hydrogen electrode?
4. What is buffer capacity of solution containing 0.2M acetic acid and 0.1M sodium acetate.

Section-III: *Long Answer Questions*

1. Explain in detail methods of adjustment of tonicity.
2. What is buffer capacity? Derive and explain buffer equation.