Shree H. N. Shukla Institute of Pharmaceutical Education and Research, Rajkot

B. Pharm
Semester-III

Subject Name: Physical Pharmaceutics-I
Subject Code: BP302TP

Chapter-1
Solubility of Drugs

1. Define Sollubility of a substance. Where it plays an important role?
2. Express solubility according to USP. Described in detail.
3. Discuss about the mechanisms of solut-solvent interaction.
4. What are polar, semi polar and nonpolar solvents? Give example.
5. Describe Raoult's law? And what is Ideal solution?
6. Discuss role of Temprature & PH in solubility of drugs.
7. Define following terms: solute, solvent, solution, saturated solution, unsaturated solution, supersaturated solution.
8. What is critical solution temperature (CST) with example.

Chapter-2
State and Properties of Matter

1. What are the phases of the matter? Describe each one briefly.
2. Describe crystalline solids
3. Describe amorphous solids
4. Describe polycrystalline solids
5. What is polymorphism? Give suitable example.
6. Describe 1) glassy state 2) liquid crystals
7. Classify liquid crystals. With suitable example.
8. What is sublimation curve? Give suitable example.
9. What is triple point? Give its conversation of state of matter.
10. What is eutetic mixture. Explain the formation of eutatic mixture of salol and thymol by diagram.
11. What are Aerosols? Give their advantage and disadvantages.
12. What is principle of aerosols discuss in briefly.
13. Wrtite notes on aerosol container.
14. What is fuction of inhaler? Discuss briefly about different type of inhalers.
15. What is realtive humidity?

Chapter-3
Physiochemical Properties Of Drug Molecules

1. Write in briefly note. 1)additive properties 2) constitutive properties.
2. Write in briefly note. 1) combined additive and constitutive properties 2) colligative properties.
3. What is specific refraction and what is molar refraction wrtie in deatil.
4. How to determine refractive index of substance by Abbe's refractometer? Write principle with clear diagram.
5. What are the various factor affecting refractive index?
6. What is optical activity of compound? Write dextrorotatory and levo rotator optical isomers.
7. Write method of measurement of optical rotation by polarimeter.
8. What is dielectic constant. Give significance in enhancing the solubility of drugs.
9. What is realtion between pH and pKa?

Chapter-4
Surface And Interfacial Phenomenon

1. Define following terms : 1) surface tension 2) cohesive and adhesive forces 3) Surface free energy
2. What is interfacial tension? Explain with suitable diagram.
3. What are the different method for measure surface tension and interfacial tension. Write capillary rise method in detail.
4. What is adsorption? Explain positive and negative adsorption.
5. What is the surfactant?
6. What is critical micelle concentration? And how micelle form?
7. Classify surface acting agents on the basis of polarity in the head groups with Example.
8. What is HLB system? Give HLB scale.
9. What is solubilization technique? Explain with suitable example.
10. What is detergency? How does it take place?

Chapter-5
Complexation And Protein Binding

1. What are coordination compounds?
2. Explain the following terms: 1) Bidentate ligands 2) Tridentate ligands 3) Ambidentate ligands
3. What are inoraganic type complexes? With suitable example.
4. Define chelates.
5. What is porphyrin?
6. What is different type of organic molecular complexes?
7. What is inclusion and occlusion compounds.
8. Write note on lattice type compounds with example.
9. Write short notes on: 1) layer type compounds 2) Clathrates 3) monomolecular inclusion complexes.
10. What is protein binding? Which factor affecting protein binding?

Chapter:-6
PH, Buffers and Isotonic Solution

1. Define PH and pOH. Give the PH range of Body fluids.
2. What are the method of PH determination? Write any one method in detail.
3. What is buffer? Give suitable example.
4. What is Henderson- Hasselbalch equation for acid buffer and base buffer?
5. What is buffer capacity?
6. What is hemolytic method for measurement of tonicity?
7. What is sprowl's method of adjusting tonicity?