

FACULTY OF PHARMACY

B. Pharmacy III - Semester (PCI) (Main & Backlog) Examination, March 2024

Subject: Physical Pharmaceutics- I

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

- 1.State the Gibbs phase rule.
- 2.Write a note on Raoult's law.
- 3.Define latent heat and sublimation critical point.
- 4.Write a note on eutectic mixtures.
- 5.What is interfacial tension?
- 6.Write a note on CMC.
- 7.Write a note on complexation and drug action.
- 8.Write a note on surface free energy.
- 9.Write a note on buffers and its uses.
- 10.What is Isotonicity?

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

- 11.Write a note on solubility expressions and factors influencing on solubility of drugs.
- 12.Write a note on (a) HLB Scale (b) Surfactants (c) Detergency
- 13.(a) What is protein binding? Write its importance.
(b) Write a note on buffers and its importance in pharmaceutical and biological systems.

PART-C

Note: Answer any seven questions

(7 x 5 = 35 Marks)

- 14.What the solute- solvent interactions.
- 15.Explain the factors influencing on solubility of drugs.
- 16.Write methods to determine PKa and write its applications.
- 17.What is surface tension? Explain various methods for determination of surface tension.
- 18.What is complexation? Write the classification of complexation.
- 19.Write about pH scale. Write methods for determination of pH.
- 20.What is buffer capacity? Write Van-Slyke's equation for buffer capacity and maximum buffer capacity.
- 21.Write a note on buffers in pharmaceutical and biological systems.
- 22.Write a note on spreading coefficient and adsorption at solid interface.