

B PHARM
(SEM III) THEORY EXAMINATION 2022-23
PHYSICAL PHARMACEUTICS I

Time: 3 Hours

Total Marks: 75

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief. 10 x 2 = 20

- (a) State the equation for Ideal solubility parameter.
- (b) Define Solvation and Association.
- (c) Define the term “eutectic mixture” with an example.
- (d) Enumerate the term “Vapor Pressure”.
- (e) Explain the term “Detergency”.
- (f) Classify surfactants with examples.
- (g) List out the various methods used for determining protein binding.
- (h) Define Chelate compounds.
- (i) Define Buffer capacity.
- (j) Define Sorensen’s pH scale.

SECTION B

2. Attempt any twoparts of the following: 2 x 10 = 20

- (a) Demonstrate various methods used for the determination of surface and interfacial tension.
- (b) Describe the classification of complexation in detail.
- (c) Describe the solubility of liquids in liquids.

SECTION C

3. Attempt any fiveparts of the following: 7 x 5 = 35

- (a) Explain the working of the polarimeter for finding optical rotation.
- (b) Explain the differences between the solid-crystalline and amorphous states.
- (c) Derive the equations for spreading coefficient and surface free energy.
- (d) Discuss the various methods used for the analysis of complex formation.
- (e) Discuss the distribution law along with its applications and limitations.
- (f) Demonstrate various applications of buffers in pharmaceutical and biological systems.
- (g) Derive the buffer equations for a weak acid and its salt.