NTK/KW/15/6993

Faculty of Pharmacy

B.Pharm. Fifth Semester (C.B.S.) Examination

PHARMACEUTICS—V

(Physical Pharmacy)

Paper—I (5 T 1)

Time—Three Hours] [Full Marks—80

N.B. :— (1) Question No. **1** is compulsory.

(2) Solve any **FOUR** questions from the remaining.

(3) Draw neat labeled diagram wherever necessary.

(4) Discuss the reaction, mechanism wherever necessary.

(5) Use of electronic calculator is permitted.

(6) Assume suitable data wherever necessary.

1. Solve any **five** : 5×4=20

(a) Define colloids. Give types of colloids.

(b) What is spreading coefficient ? Derive equation for spreading coefficient.

(c) Disperse systems are thermodynamically unstable, justify.

(d) Define :

(i) Specific surface

(ii) Particle number

(iii) Equivalent spherical diameter

(iv) True density.

(e) Explain cloud point and kraft point.

(f) Why are flocculated suspensions preferred over deflocculated ones ?

(g) How does change in temperature leads to destabilization of emulsion ?

2. Define critical micelle concentration. Explain phenomenon of micelle formation and explain various factors affecting micelle formation. 15

3. Describe various properties of colloids for determination of molecular weight of polymers. 15

4. (a) Define adsorption Isotherm. Describe adsorption phenomenon of gases on solids with different adsorption Isotherm. 8

(b) Describe evaluation parameters for suspension. 7

5. (a) Define micromeritics. What is Edmundson equation ? How are the various statistical diameters calculated using Edmundson equation ? 10

(b) Describe Coulter counter method for determination of particle volume. 5

6. (a) Describe mechanism of droplet stabilization. 8

(b) Explain various instability problems of emulsion. 7

7. Write short notes on (any **two**) : 15

(a) Micellar Solubilization

(b) Controlled flocculation

(c) Assessment of shelf life of emulsion

(d) Derived properties of powder.