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

**PHARMACEUTICS—V (Physical Pharmacy)**

**Paper—1**

Time : Three Hours] [Maximum Marks : 80

**N.B. :—** (1) Question No. **1** is compulsory.
(2) Attempt any **four** questions out of remaining.
(3) All questions carry equal marks.
(4) Draw neat labelled diagram wherever necessary.
(5) Assume suitable data wherever necessary.

1. Attempt any **five** of the following :
   (a) Explain why mixed emulsifiers produce a more stable emulsion than single emulsifier.
   (b) How the surfactants are classified according to HLB ?
   (c) What is Hofmeister series ?
   (d) What is critical micelle concentration ? What is its significance ?
   (e) What are the factors responsible for Sedimentation of particles ? How they can be controlled ?
   (f) Describe the mechanism by which particle gets charged in the medium.
   (g) Define :
      (1) Interfacial tension
      (2) Adsorption. 5×4=20
2. (a) Give the applications of colloids. 8
   (b) What is effect of electrolyte on CMC of surfactants ? 7
3. What is zeta potential ? What is Nernst potential and electrokinetic potential ? How does it control physical stability of emulsions ? 15
4. Derive the equation for Langmuir's adsorption isotherm. 15
5. (a) Explain DLVO theory of suspensions. 8
   (b) Write a note on controlled flocculation. 7
6. What is angle of repose ? How it is determined ? What is its significance ? Describe derived properties of powders. 15
7. Write notes on (any **two**) :
   (a) Porosity, its types and significance
   (b) Davies theory of emulsions
   (c) Classification of surfactants as per chemical structure. 15