

C.U.SHAH UNIVERSITY**Summer Examination-2017****Subject Name:** Physical Pharmacy I**Subject Code:** 4PS03PHP1**Branch:** B.Pharm**Semester:** 3**Date:** 23/03/2017**Time :** 10:30 To 01:30**Marks :** 70**Instructions:**

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

- Q-1** **Define the following terms** **(14)**
- a) Ideal gas law
 - b) Crystalline solid
 - c) Amorphous solid
 - d) Liquid crystals
 - e) Nonpolar solvent
 - f) Osmosis
 - g) Surface free energy
 - h) Spreading Coefficient
 - i) Wetting Agent
 - j) Association Colloids
 - k) Brownian motion
 - l) Donnan Membrane equilibrium
 - m) Phase inversion
 - n) Flocculated Particles

Attempt any four questions from Q-2 to Q-8

- Q-2** **Attempt all questions** **(14)**
- a. Write a note on Phase Rule. **(7)**
 - b. Discuss the solid and the crystalline state. **(7)**
- Q-3** **Attempt all questions** **(14)**
- a. Which are the parameters of solubility of solid in liquids? How do you calculate the solubility of weak electrolytes as influenced by pH? **(7)**
 - b. Describe solubility of gases in liquids. **(7)**
- Q-4** **Attempt all questions** **(14)**
- a. Differentiate ideal and real solution. Explain the influence of foreign substances in solubility of liquids in liquids. **(7)**
 - b. Describe the method of calculation of HLB by different techniques **(7)**



- Q-5** **Attempt all questions** **(14)**
- a. Differentiate various types of colloidal dispersion system and give the application of colloids in pharmacy **(7)**
 - b. Explain kinetic properties of Colloids **(7)**
- Q-6** **Attempt all questions** **(14)**
- a. Discuss spreading coefficient. Derive its equation **(7)**
 - b. What is dissolution? Discuss its significance in drug therapy. **(7)**
- Q-7** **Attempt all questions** **(14)**
- a. Explain different identification test for types of emulsion **(7)**
 - b. Write a note on evaluation of suspension **(7)**
- Q-8** **Attempt all questions** **(14)**
- a. Describe the method for studying *in-vitro* drug diffusion. **(7)**
 - b. Describe *in-vitro* dissolution test apparatus as per Indian Pharmacopoeia **(7)**

