JL-014-1043003 Seat No. _____

M. P. M. (Sem. III) (CBCS) Examination

August / September - 2019

Physical Pharmaceutics - I

Faculty Code : 014

Subject Code : 01043003

Time : **3** Hours] [Total Marks : **75**

Instructions : (1) Figure to the right indicates marks.

(2) Draw neat and clean diagram as required.

1 Answer the following questions : **10×2=20**

(a) Define refractive index and enlist the factors affecting it.

(b) Describe Sorensen's pH scale.

(c) Define vapour pressure and eutectic mixture.

(d) When a drop of liquid is suspended in air, it assumes a spherical shape. Why ?

(e) Write down the difference between crystalline and amorphous solids.

(f) Write down the importance of wetting process in pharmacy.

(g) Write down the difference between physical adsorption and chemical adsorption.

(h) Define solubility parameter and enlist the methods for determining it.

(i) Define critical solution temperature and enlist its application.

(j) Define dipole moment with example.

2 Answer any **two** out of the following : **2×10=20**

(a) Describe in detail the factors affecting solubility of solids in liquid.

(b) What is surface and interfacial tension ? Describe in detail methods of measurement of surface and interfacial tension.

(c) Classify the different types of complexes and explain in detail the methods of analysis of complexes.

3 Answer any **seven** out of the following : **7×5=35**

(a) Describe in detail about Abbe's Refractometer.

(b) State Raoult's law. Describe the deviation from the law with examples.

(c) Describe in detail various types of adsorption isotherms.

(d) Explain any one method of measurement of pH.

(e) Write a short note on liquid crystals.

(f) Define HLB and RHLB. Explain in detail methods of determination of HLB.

(g) Write a short note on Optical Rotation.

(h) Define protein binding and explain in detail applications of protein binding.

(i) Explain the distribution law. Write down its limitations and applications.