JJ-1612010701030100 Seat No. _____

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

August / September - 2019

Physical Pharmacy

Time : **3** Hours] [Total Marks : **80**

Instructions : (1) Figure to the right indicates marks.
(2) Answer any three question from each section.
(3) Question one and question five are compulsory.
(4) Draw neat and clean diagrams as required.

SECTION - I

1 Answer any seven out of 10. **14**

(a) What is thixotropy and yield value ?

(b) Enlist various factors affecting solubility of solids in liquids.

(c) State Raoult's law.

(d) Write down the difference between flocculated suspension and deflocculated suspension.

(e) Define porosity and write down its application in pharmacy.

(f) Define lyophobic colloids and lyophilic colloids with example.

(g) Classify solids and define polymorphism.

(h) Define HLB value and explain one method of determination of same.

(i) Define zeta potential and surface tension.

(j) Define Newtonian flow with example.

2 Answer the following questions :

(a) Explain osmotic pressure and write down the methods of determination of osmotic pressure. **7**

(b) Enlist different binding forces between molecules and explain any one in detail. **6**

3 Answer the following questions :

(a) Write down the applications of complexation. **7**

(b) With labelled diagram explain the principal and working of Ostwald viscometer. **6**

4 Answer the following questions :

(a) Explain the electrical properties of colloids. **7**

(b) Describe the process of detergency. **6**

SECTION - II

5 Answer any **two** out of three : **7×2=14**

(a) Explain Stockes' law of sedimentation.

(b) Derive the equation for determination of interfacial tension using capillary rise method.

(c) Explain in detail non-newtonian systems.

6 Answer the following questions :

(a) Write down the difference between zero order and first order reaction with suitable example. **7**

(b) Define Angle of repose and write down the method of determination of angle of repose. **6**

7 Answer the following questions :

(a) Explain the factors which govern the rate of chemical reaction. **7**

(b) Write a short note on Accelerated stability study. **6**

8 Answer the following questions :

(a) Explain various stability problems that occur in emulsion. **7**

(b) Explain the sedimentation method for determination of particle size. **6**
