HEF-1612010701030100 Seat No. _____

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

December – 2017

Physical Pharmacy

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

Instructions : (1) Figures to the right indicates marks.
                          (2) Answer any three questions 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 ten :   **14**

(a) Colligative properties are applied only to dilute solution. Why?

(b) Define HLB. Describe any one method of determination of HLB.

(c) Write down the difference between lyophilic colloids and lyophobic colloids.

(d) Suspensions do not exhibit Brownian movement. True or False.

(e) Define bulk density and porosity.

(f) What is Dalton's law of vapour pressure? .

(g) Define Schulz Hardy Rule and write down its application.

(h) Define order of reaction with suitable example.

(i) Explain why suspensions mostly follow zero order.

(j) Define polymorphism and enlist its application.

2   Answer the following questions :

(a) Describe in detail the optical properties of colloidal   **7**
dispersion.

(b) Define viscosity and describe in detail the factors   **6**
affecting viscosity.

3 Answer the following questions :

(a) Define Stokes' law and write down in detail the factors affecting settling of particles in suspension. **7**

(b) Enlist different methods of determination of surface and interfacial tension and explain any one method in detail. **6**

4 Answer the following questions :

(a) Define emulsion and discuss in detail various instabilities occur in emulsion. **7**

(b) Describe the factors which govern the rate of a chemical reaction. **6**

SECTION - II

5 Answer any two out of three : **14**

(a) Define complexation and write down in detail the applications of complexation.

(b) Enlist the different method for particle size determination and explain any one in detail.

(c) Write a short note on Non Newtonian flow.

6 Answer the following questions :

(a) Explain in detail the electrical properties of interfaces. **7**

(b) Explain in detail various factors affecting solubility of solid in liquid. **6**

7 Answer the following questions :

(a) Describe in detail the derived properties of powders. **7**

(b) Enlist different factors affecting intermolecular forces explain any one in detail. **6**

8 Answer the following questions :

(a) Describe Arrhenius theory of electrolyte dissociation. **7**

(b) Define osmotic pressure and explain Berkeley and Hartley's method for measuring osmotic pressure with labelled diagram. **6**

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