[5145]-401

S.Y. B.Pharmacy
PHYSICAL PHARMACEUTICS - II
(2013 Pattern) (Semester - IV)

Time : 3 Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1) *All questions are compulsory.*
2) *Answers to the two sections should be written in separate books.*
3) *Neat diagrams must be drawn wherever necessary.*
4) *Figures to the right indicate full marks.*

SECTION - I

Q1) Define 'Thixotropy'. Explain the methods used for determination of thixotropy, add a note on its application in pharmacy.   **[10]**

OR

Describe various methods to measure surface tension. Write a note on interfacial tension and how it can be measured.   **[10]**

Q2) Attempt any five of the following: **[15]**

a) Explain sieve analysis method for particle size measurement along with its limitations.

b) Give principle behind Ostwald viscometer.

c) How is the half life for first order reactions calculated?

d) Define the following concept: Colloids - Lyophilic sol and Lyophobic sol.

e) What is viscoelasticity?

f) Explain briefly the methods for measurement of surface area of particles.

g) Describe the applications of colloids in pharmacy.

P.T.O.

Q3) Write notes on any two of the following: **[10]**

    a)   Electrical double layer.

    b)   Falling ball viscometer.

    c)   Half life and shelf life.

    d)   Schulze - Hardy rule.

SECTION - II

Q4) Explain the different methods used for determination of 'order of reaction'.**[10]**

<div align="center">OR</div>

What do you understand by derived and fundamental properties of particle? **[10]**

Q5) Attempt any five of the following: **[15]**

    a)   Describe the different types of particle diameters.

    b)   One point determination is virtually useless in characterizing flow properties of non newtonian liquids. Explain.

    c)   Justify: first order reaction is independent on initial concentration of reactant.

    d)   Describe gold number.

    e)   Describe application of rheology in suspension.

    f)   Discuss Nernst and Zeta potential.

    g)   Explain non-newtonian liquids.

Q6) Write notes on any two of the following: **[10]**

    a)   Hydrophilic and hydrophobic colloids.

    b)   Flow of powders.

    c)   Krafft and cloud point.

    d)   Bulges and spurs.