Printed Pages : 2 **Sub Code: BOP242**

Paper Id: 150207 **Roll No.** | | | | | | | | | | |

B. PHARM.
(SEM IV) THEORY EXAMINATION 2018-19
PHARMACEUTICS-IV (PHYSICAL PHARMACY)

Time: 3 Hours ***Total Marks: 100***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **2 x 10 = 20**

a. What do you understand byexpiry date?
b. Define energy of activation.
c. Enlist any two methods of particle size determination.
d. Porosity and its application
e. Define zeta potential.
f. What do you mean by contact angle?
g. Differentiate between negative thixotropy and dilatant.
h. How to rectify plug flow in viscometer.
i. Give example of non-ionic and cationic surfactants.
j. What is surface free energy?

SECTION B

2. Attempt any *three* of the following: **10 x 3 = 30**

a. Define tonicity. Enumerate the different methods for adjustment of tonicity.
b. Explain the different categories of non-Newtonian fluid based on the different pattern of rheogram.
c. Write a note on sieving and sedimentation methods in relation to micromeritics.
d. Define detergency. Explain any one method for determination of surface tension method.
e. Describe the working of falling sphere viscometer and cup and bob viscometer.

SECTION C

3. Attempt any *one* part of the following: **10 x 1 = 10**

a) Explain influence of temperature, light, solvent, catalytic species and other factors on drug stability.
b) What do you mean by accelerated stability studies and explain method used to calculate expiry date.

4. Attempt any *one* part of the following: **10 x 1 = 10**

a) Explain the different derived properties of powders.
b) Enumerate the air permeability method for determining surface area

5. Attempt any *one* part of the following: 10 x 1 = 10

a) Classify surfactant on HLB scale? Discuss the mechanism of micellar solubilization

b) Explain the formation of electrical double layer with a neat labelled diagram and compute spreading coefficient and surface free energy in detail

6. Attempt any *one* part of the following: 10 x 1 = 10

a) Write note on thixotrophy.

b) Explain law of flow and enumerate different factors affecting viscosityof formulations

7. Attempt any *one* part of the following: 10 x 1 = 10

a) Define emulsion. Describe the approaches to stabilize an emulsion in order its long term physical stability.

b) Define colloids and highlight their properties. Give their applications in pharmacy.