Printed Pages: 4 **BOP-242**

(Following Paper ID and Roll No. to be filled in your Answer Books)	
Paper ID : 150408	**Roll No.**

B. PHARM.

Theory Examination (Semester-IV) 2015-16

PHARMACEUTICS-IV (PHYSICAL PHARMACY)

Time : 3 Hours ***Max. Marks : 100***

Section-A

1. Attempt all parts. All parts carry equal marks. Write answer of each part in short. (2×10=20)

(a) What do you understand by isotonic solution?

(b) Enlist any two methods of particle size determination.

(c) Define surface tension. Give its units.

(d) Write the equation for porosity. Give its units.

(e) Draw the rheograms for plastic and dilatant flow.

(f) Give two examples of rotational viscometers.

(g) Give one example each of an anionic and a non-ionic surfactant.

(h) State true or false (i) a deflocculated suspension forms redispersiblecake when allowed to stand for longer period; (ii) The surface tension of water is 75 dynes/cm.

(i) An emulsifying agent reduces ..... between the ..... and continuous phase.

(j) Define shelf life.

Section-B

2. Attempt any five questions from this section: (10×5=50)

(a) Enlist the physical and chemical degradative pathways of a drug. With the help r' kinetic plots explain the effect of temperature on the degradation. How are these plots used to determine the expiration dating.

(b) Enlist the methods of tonicity adjustments. Explain any two methods.

(c) In context to micromeritics, explain the following:

(i) Number and weight distribution

(ii) Air permeability method for determining surface area

(d) Derive the mathematical equation for determination of spreading coefficient. Give an account of HLB classification system and its significance.

(e) What are Non-Newtonian systems? Classify giving suitable examples. Define thixotropy and explain its pharmaceutical significance.

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

(g) Differentiate flocculated and deflocculated suspension. What is meant by controlled flocculation?

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

Section-C

Attempt any two questions in this section: (15×2=30)

3. Give an account of accelerated stability testing with special mention to ICH guidelines.

4. Explain the importance of maintaining pH of an opthalmicpreparation. How is it adjusted?

5. Detail the methods of determining surface and interfacial tension. Explain the electrical properties of interface and give its applications in pharmacy.