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Printed Pages:01 **Sub Code: RPH-407**

Paper Id: | 1 | 5 | 0 | 4 | 3 | 4 | **Roll No.** | | | | | | | | | | |

B. Pharm.
(SEM IV) THEORY EXAMINATION 2017-18
PHYSICAL PHARMACY

Time: 3 Hours ***Total Marks: 70***

Note: Attempt all Sections.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

a. Define buffer.
b. Define porosity.
c. Draw consistency curve for dilatants flow and give two examples.
d. How do you select a viscometer to study the rheology of fluids?
e. What are association colloids?
f. What is a structured vehicle?
g. Define surface tension and give reason for the capillary rise of water, when a capillary is placed in a beaker of water.

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

a. What is HLB scale? Derive the buffer equation for a weak acid and its salt.
b. List different types of densities of powders/granules. Describe method for determination of any one of them.
c. Discuss the application of amphiphiles in pharmacy.
d. Derive an equation for determination of surface tensions of a liquid by capillary rise methods.
e. Discuss the factors influencing physical stability of suspensions.

SECTION C

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

(a) Define buffer capacity. Discuss methods for adjusting tonicity.
(b) Write a note on accelerated stability study.

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

(a) Describe different types of porosities. Explain the differences among them.
(b) Describe any two methods for determination of particles size in a powder.

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

(a) Define surface free energy and discuss adsorption at liquid interfaces.
(b) How will you measure surface and interfacial tensions by Du Nouy ring methods?

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

(a) Give the working principle of Falling sphere viscometer with a labeled diagram.
(b) Explain plastic and pseudoplastic flow with rheograms, mechanisms and suitable examples.

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

(a) Discuss the mechanism of action of emulsifiers in the stabilization of emulsions.
(b) What is meant by sedimentation parameter? How are the evaluated?

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