

Code : 091101

Subhash Kuroor.

B.Pharm 1st Semester Exam., 2017

PHARMACEUTICS—I

( Physical Pharmacy )

Time : 3 hours Full Marks : 70

Instructions:

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **NINE** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question No. 1 is compulsory.

1. Answer any seven of the following questions :

2\*7=14

- (a) Define eutectic mixture.
- (b) Define tap density.
- (c) Define kinematic viscosity.
- (d) Define chelates.
- (e) Define isotonicity.
- (f) What is Sieve number?
- (g) Define shelf life.
- (h) Define latent heat.
- (i) Define angle of repose.
- (j) Define the term micromeritics.

( 2 )

2. Answer the following questions :

(a) Describe the accelerated stability testing. 7

(b) Write the applications of rheology in pharmacy. 7

3. What is buffer capacity? Explain the various methods for adjusting tonicity. Explain the importance of pharmaceutical buffers. 14

4. Answer the following questions :

(a) What is spreading coefficient? Explain one method for determining it. 5

(b) Describe the different methods for analyzing complexes. 9

5. Answer the following questions :

(a) Discuss the factors that influence the selection of viscometer for determining the viscosity of liquids. Explain the functioning of a cone and plate viscometer. 10

(b) Write short notes on particle size and size distribution. 4

6. Answer the following questions :

(a) Write the derived properties of powder. 7

(b) Classify complexes with suitable examples. 7

7. Answer the following questions :

- (a) Explain the difference between Newtonian and Non-Newtonian flow behaviours. Give suitable examples. 5
- (b) Explain the differences between flocculated and deflocculated suspensions and justify the need for preferring flocculated suspension. 5
- (c) Write a short note on HLB. 4

8. Answer the following questions :

- (a) Discuss in detail the properties of various states of matter. How does transition take place from one state of matter to other? 9
- (b) Write a short note on liquid crystals. 5

9. Answer the following questions :

- (a) Find out the concentration of sodium chloride required to make 1% of boric acid isotonic with blood plasma. (Freezing point depression of 1% boric acid is  $-0.288^{\circ}\text{C}$ ; freezing point depression of 1% solution of sodium chloride is  $-0.576^{\circ}\text{C}$ ) 7
- (b) Explain the theory of emulsification. 5
- (c) Define the term interfacial tension. 2

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