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Paper Id: | 150284 | Roll No. [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

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

Time: 3 Hours   *Total Marks: 70*

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

SECTION A

1. **Attempt *all* questions in brief.**   **2 x 7 = 14**
   (a) Differentiate between surface and interfacial tension.
   (b) What is bulk density? How is it different from true density?
   (c) What do you mean by the term HLB?
   (d) What are isotonic solutions? Give example.
   (e) Differentiate between emulsions and suspensions.
   (f) Define kinematic viscosity.
   (g) How will you define half life of a drug?

SECTION B

2. **Attempt any *three* of the following:**   **7 x 3 = 21**
   (a) What is angle of repose? What is its significance? Give its method of determination.
   (b) What is CMC? What are the factors affecting CMC? Write down the various applications of surfactants.
   (c) Classify viscometers. Explain the principle and working of any one.
   (d) Write a detailed note on the properties of colloids.
   (e) Define buffer capacity and explain how it is measured?

SECTION C

3. **Attempt any *one* part of the following:**   **7 x 1 = 7**
   a) Enlist the methods of tonicity adjustments. Explain any two methods.
   b) List the pathways by which drugs can degrade. Discuss any one in detail.

4. **Attempt any *one* part of the following:**   **7 x 1 = 7**
   a) What are the various derived properties of powder? How can you determine them?
   b) Explain air permeability method with the help of a labeled diagram.

5. **Attempt any *one* part of the following:**   **7 x 1 = 7**
   a) Write a detailed note on electrical double layer.
   b) What do you understand by solubilization? Write a note on wetting of particles.

6. **Attempt any *one* part of the following:**   **7 x 1 = 7**
   a) Discuss the non-newtonian fluid flow with rheograms and suitable examples.
   b) Discuss importance of rheology in manufacturing and formulation of pharmaceuticals.

7. **Attempt any *one* part of the following:**   **7 x 1 = 7**
   a) What do you understand by DLVO theory? Explain.
   b) Write a note on stability problems of emulsions.