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BPHARMA
(SEM IV) THEORY EXAMINATION 2023-24
PHARMACEUTICS-IV (PHYSICAL PHARMACY)

TIME: 3 HRS   **M.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.	Define the zeta potential & Nernst potentials.
b.	Draw the Rheogram for plastic flow and pseudo-plastic flow.
c.	Classify the HLB system.
d.	Define the Sieve diameter and projected diameter.
e.	Define half-life and self-life for the first-order reaction.
f.	In list the identification test for determining the type of emulsion.
g.	Explain Schulze- Hardy rule.

SECTION B

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

a.	Describe any two methods for the purification of colloids.
b.	Explain the working procedure of the capillary viscometer for the determination of viscosity with a labelled diagram.
c.	Explainthe theory of emulsion.
d.	Explain the Angle of repose, Carr's consolidation Index & Hausner's Ratio.
e.	Explain the physical and chemical degradation Pathways of drug.

SECTION C

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

(a)	Classify colloids and compare the general properties of colloidal dispersions.
(b)	Write a note on the accelerated stability study.

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

(a)	Difference between Newtonian and Non-Newtonian systems based on Rheogram with suitable examples.
(b)	Explain the adsorption method for determining surface area.

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

(a)	Differentiate between flocculated and deflocculated suspension.
(b)	Explain the Photolysis of pharmaceuticals and how to prevent it.

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

(a)	Classify the viscometers and explain the cup and bob viscometer.
(b)	Define zero-order reactions and also explain self-life and half-life for the same.

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

(a)	Explain the Microscopy methodfor the determination of particle size.
(b)	Discuss the factors influencing the physical stability of suspensions.