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B PHARM
(SEM IV) THEORY EXAMINATION 2022-23
PHYSICAL PHARMACEUTICS-II

Time: 3 Hours ***Total Marks: 75***

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

SECTION A

1. Attempt *all* questions in brief. 10 x 2 = 20

(a) Define the term "coacervation" in colloids.

(b) Write down the Schulze -Hardy rule with an example.

(c) What is kinematic viscosity?

(d) What is negative thixotropy?

(e) What are multiple emulsions?

(f) Define the term HLB.

(g) What is angle of repose?

(h) Differentiate between true density and bulk density.

(i) Differentiate between a pseudo-zero order andfirst-order reaction.

(j) What do you mean by the term "Photolytic degradation" of a drug?

SECTION B

2. Attempt any *two*parts of the following: 2 x 10 = 20

(a) Illustrate various non-Newtonian systems including plastic, pseudoplastic, dilatant, and thixotropy in pharmaceutical formulations with proper rheograms.

(b) Explain different types of deformation of solids, elastic modulus, and Heckel's equation in detail.

(c) Describe in detail about the methods for determining surface area of particles.

SECTION C

3. Attempt any *five*parts of the following: 5 x 7 = 35

(a) Illustrate the optical and kinetic properties of colloidal dispersion.

(b) Explain any one method for determination of viscosity of Newtonian systems in detail.

(c) Discuss the various signs of instability inan emulsion and methods for its preservation.

(d) Differentiate between flocculated and deflocculated suspensions and methods for formulating any suspension.

(e) Describe the working principle and method for particle size determination using the Andreasen pipette apparatus with its labelleddiagram.

(f) Derive the equation for zero-order reaction and determine the half-life and shelf life of any zero-order reaction using the same equation.

(g) Explain the method involved in the accelerated stability testing for determination of expiration dating of any pharmaceutical dosage form.

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