JHARKHAND Rai University
RANCHI
ACCREDITED BY NAAC

End Semester/Reappear (Semester IV) Examination July 2022

Programme: B. Pharm   **Full Marks: 75**

Subject: Physical Pharmaceutics II   **Time: 3 Hrs**

Subject Code: BP403T

Enrollment No: _____

Section I

1. **Objective type questions. Answer all questions.**   **20 x 1 = 20**

   i. The particle size of colloidal dispersion is

      a) 1-1000nm   b) less than 1nm   c) greater than 1000nm   d) None

   ii. Scattering of light by colloidal particles is called

      a) Brownian movement   b) Tyndall effect   c) Donnan effect   d) Diffusion

   iii. The protective ability of colloids is measured in

      a) Zeta potential   b) Streaming potential   c) Gold number   d) None

   iv. In Sol, the dispersed phase and dispersion medium are

      a) Solid and solid   b) Liquid and liquid   c) Liquid and gas   d) Solid and liquid

   v. Dilatant flow is characterized as a reverse phenomenon of

      a) Pseudoplastic flow   b) Newtonian flow   c) Plastic flow   d) Rheopexy

   vi. Stoke's is the unit of

      a) Relative viscosity   b) Kinematic viscosity   c) Intrinsic viscosity   d) Reduced viscosity

   vii. Syrup is an example of

      a) Non-newtonian system   b) Plastic system   c) Newtonian system   d) None

   viii. The law which describes the stress-strain relationship dealing with elastic deformation is

      a) Young's modulus   b) Heckel's law   c) Newton's law   d) Hooke's law

   ix. For an ideal suspension, the sedimentation volume should be

      a) Equal to 1   b) Less than 1   c) More than 1   d) Zero

   x. Which one of the following properties is applicable to suspensions

      a) Browian motion   b) Sedimentation   c) Laminar flow   d) Stoke's law

   xi. In dilute suspensions the percentage of solids present is

      a) 50%w/v   b) more than 50%w/v   c) 2-10%w/v   d) None

   xii. emulsions are ....liquid preparation

      a) Monophasic   b) Triphasic   c) Polyphasic   d) Biphasic

xiii. If the density of the dispersed phase is more than the dispersion medium then creaming takes place in a .... direction

    a) Downward   b) Upward   c) Centre   d)Both

xiv. For a stable emulsion, the phase volume ratio is generally about

    a) 28/72   b) 52/48   c) 24/76   d) 74/26

xv. A mixture of span 20 and tween 20 forms.................... type of emulsion

    a) O/W   b) Milky   c) W/O   d) Hard

xvi. Field of science dealing with study of small particles is known as

    a) Thermology   b) Hydrology   c) Rheology   d) Micromeritics

xvii. One micrometer is equal to

    a) 10^{-6} m   b) 10^{-6} cm   c) 10^{-3} m   d) 10^{-3} cm

xviii. Stoke's law cannot be used if Reynold's number is more than

    a) 1.8   b) 0.2   c) 9.0   d) 18.0

xix. The true density of talc is 2.7g/cc, the bulk density (g/cc) of talc will be

    a) Equal to 2.7   b) Greater than 2.7   c) Less than 2.7   d) Unrelated

xx. In reactions that follow first order kinetics, half life is expressed by the equation

    a) 0.693/lk   b) 0.301/kl   c) 0.105/kl   d) 0.693/kl

Section II

2. **Short Answer type questions. Answer any five.**   **5 x 7 = 35**
   a. Write a note on thixotropy.
   b. Define Zeta potential. Mention its importance.
   c. Discuss the Heckel equation.
   d. Explain the derived properties of powder.
   e. Write about BET equation.
   f. Define Emulsion. Give its classification with suitable examples.
   g. Differentiate between flocculated and deflocculated suspension.

Section III

Long Answer type questions. Answer any two.   **2 x 10 = 20**

3. Define colloidal dispersion. Explain the techniques that are generally applied in the purification of colloids.
4. Describe about various types of viscometer used to determine viscosity of Newtonian and non-Newtonian fluid. Illustrate about Cup and Bob type viscometer.
5. Discuss accelerated stability testing in expiration dating of pharmaceutical dosage forms.

*****