14/05/2025
S.Y. B. Pharm
Sem - VI
Semester Exam

Time: 3 Hrs   **Marks:75**

Q1 Attempt all multiple-choice questions (MCQ)   **20 M**

There are _____ types of colloidal dispersions.
   a) 2
   b) 3
   c) 4
   d) 5

Dispersed particles in the colloidal dispersions usually have the particle size ranging from
   a) 2 μm to 4 μm
   b) 1nm to 0.5 μm
   c) 5 μm to 6 μm
   d) 6 μm to 7 μm

Which of the following statement is correct
   a) Lyophobic systems show most intense Tyndall effect
   b) Lyophilic systems show most intense Tyndall effect
   c) Lyophobic systems do not show Tyndall effect
   d) Lyophobic systems show weak Tyndall effect

Yield value is indicative of
   a) Force of Deflocculation
   b) Force of flocculation
   c) Force of Gravity
   d) Force of Acceleration

Brookfield Viscometer measures
   a) Extent of Deformation
   b) Extent of torque
   c) Extent of compression
   d) Extent of Stability

Which of the following describes an equivalent sphere undergoing sedimentation at the same rate as the asymmetric particle
   a) surface diameter
   b) volume diameter
   c) stokes diameter
   d) spherical diameter

77236   **Page 1 of 4**

7   Which of the following is true for non-porous solids
    a) bulk density > true density
    b) true density < granule density
    c) true density = granule density
    d) granule density = bulk density

8   This is not an approach used in formulation of Suspension
    a) Wet gum Method
    b) Use of Structured Vehicle
    c) Use of Controlled Flocculation
    d) Flocculation in structured Vehicle

9   Bulges and spurs are shown by
    a) Surface active system
    b) Thixotropic system
    c) colloid system
    d) Newtonian System

10 Bingham Bodies are
    a) Materials that show higher surface potential
    b) Materials that show sticky deformation
    c) Materials that show plastic flow
    d) Materials that show Newtonian flow

11 A drug solution decomposes via first-order kinetics with a rate constant, k, of 0.035 /days. What is the half-life of the drug in solution?
    a) 0.035 minutes
    b) 33 days
    c) 90 days
    d) 19.80 days

12 Cold Welding occurs in
    a) Compaction of semi solids
    b) Compression of Powders
    c) Consolidation of Powders
    d) Compaction of liquids

Force of attraction that exist in between particles present in suspension

   a) Electrical similar charge Forces

   b) Zeta Potential

   c) Van der Waals Forces

   d) Newtonian Forces

Electrolytes act as -------------- in preparation of Suspension

   a) Binding Agent

   b) Diluent

   c) Flocculating Agent

   d) Surfactant

This is one of the cause responsible for instability of emulsion

   a) Wetting

   b) Phase Inversion

   c) Viscosity

   d) Emulsifier

Porosity is defined as ratio of

   a) bulk volume to true volume

   b) tapped volume to void volume

   c) void volume to bulk volume

   d) void volume to true volume

Air permeability method is used to determine particle _____

   a) shape

   b) volume diameter

   c) surface area

   d) density

According to Arrhenius theory if temperature increases, the reaction rate ....

   a) decrease than increase

   b) decreases

   c) increases

   d) stays the same

77236

19 Higher order (>3) reaction kinetics are rare due to the
   a) Low probability of simultaneous collision of all the reacting species
   b) Increase in entropy and activation energy as more molecules are involved
   c) Shifting of equilibrium towards reactants due to elastic collisions
   d) loss of active species on collision

20 A reaction involving two different reactants can never be
   a) Unimolecular reaction
   b) First order reaction
   c) Second order reaction
   d) Bimolecular reaction

Q 2 **Long Answer Questions (Answer any two)** 20

   1 Define order of Reaction. Explain any two methods for Determination of order of reaction.
   2. Define Micromeritics. Explain method used for determination of surface of powder solid particles.
   3. Describe kinetics properties of colloids.

Q3 **Short Answer Questions (Answer any seven)** 35

   1. Elaborate on Sedimentation method for Particle size determination
   2. Explain the terms Elastic and Plastic deformation. Write a short note on Heckel Plot.
   3. Explain construction and working of Falling Sphere viscometer
   4. Discuss the factors influencing Physical Stability of Suspensions.
   5. What are the limitations of accelerated stability studies?
   6. Discuss in brief any two theories of emulsification
   7. Draw the rheograms for Newtonian and Non-Newtonian Fluids. Give one example for each type of flow
   8. Discuss different types of strain in compression of powder systems.
   9. Write short Note on Micro Emulsion.

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