Course Content:

UNIT-I **07 Hours**

Colloidal dispersions: Classification of dispersed systems & their general characteristics, size & shapes of colloidal particles, classification of colloids & comparative account of their general properties. Optical, kinetic & electrical properties. Effect of electrolytes, coacervation, peptization& protective action.

PHYSICAL PHARMACEUTICS 2nd

IV SEMESTER [DEPTH OF BIOLOGY]

UNIT-1

10 MARK QUE

Q1. Explain the optical kinetic and & property of colloidal dispersion?

5 MARK QUE

Q1. Explain / classify colloid.

Q2. Explain classification of dispersed system.

2 MARK QUE

Q1. Effect of electrolyte?

Q2. Explain peptization.

Q3.Explain coacervation

Q4. Explain protective action

[DEPTH OF BIOLOGY]

UNIT-II **10 Hours**

Rheology: Newtonian systems, law of flow, kinematic viscosity, effect of temperature, non-Newtonian systems, pseudoplastic, dilatant, plastic, thixotropy, thixotropy in formulation, determination of viscosity, capillary, falling Sphere, rotational viscometers

Deformation of solids: Plastic and elastic deformation, Heckel equation, Stress, Strain, Elastic Modulus

UNIT 2

10 MARKS

Q1. Describe the newtonian & non-newtonian flow.

Q2. Explain thixotrophy (+&-) & also explain Thixotrophy in formulation

Q3.Elaborate the method for determination of viscosity

5 MARKS

Q1. Write a short note on deformation of solid

Q2. Explain the newtonian law of flow.

2 MARKS

Q1. Explain the kinematic viscosity

Q2.Explain plastic & elastic deformation

Q3. Describe haeckel equation

Q4. Define elastic modulus

UNIT-III ***10 Hours***

Coarse dispersion: *Suspension, interfacial properties of suspended particles, settling in* suspensions, formulation of flocculated and deflocculated *suspensions. Emulsions and* theories of emulsification, microemulsion and multiple emulsions; *Stability of emulsions,* preservation of emulsions, rheological properties of emulsions and emulsion formulation by HLB method.

[DEPTH OF BIOLOGY]

UNIT-3

10 MARKS

Q1. Explain emulsion & write down theories of emulsification?

[DEPTH OF BIOLOGY]

5 MARKS

Q1. Define suspension & write down diff. b/w flocullated & deflocullated suspension

Q2. What is emulsion? classify it.

Q3. Write a short note on setting of suspension

Q4. Describe the formulation of emulsion by H.L.B. Method.

Q5. Write short note on stability and preservation of emulsion

2 MARKS

Q1. What is multiple emulsion?

Q2. What is micro emulsion?

[DEPTH OF BIOLOGY]

UNIT-IV **10Hours**

Micromeretics: Particle size and distribution, mean particle size, number and weight distribution, particle number, methods for determining particle size by different methods, counting and separation method, particle shape, specific surface, methods for determining surface area, permeability, adsorption, derived properties of powders, porosity, packing arrangement, densities, bulkiness & flow properties.

[DEPTH OF BIOLOGY]

UNIT-4

10 MARKS

Q1. Write down the method for determining particle size by different method

[DEPTH OF BIOLOGY]

5 MARKS

Q1. Write down the methods for determining surface area

2 MARKS

Q1. Define flow prop of powder

Q2. Define micrometers [DEPTH OF BIOLOGY]

UNIT-V **10 Hours**

Drug stability: Reaction kinetics: zero, pseudo-zero, first & second order, units of basic rate constants, determination of reaction order. Physical and chemical factors influencing the chemical degradation of pharmaceutical product: temperature, solvent, ionic strength, dielectric constant, specific & general acid base catalysis, Simple numerical problems. Stabilization of medicinal agents against common reactions like hydrolysis & oxidation. Accelerated stability testing in expiration dating of pharmaceutical dosage forms. Photolytic degradation and its prevention

10 MARKS

Q1.Explain 0 order reaction. (derivation)

Q2.Explain the I and II order reaction [CHECK PLAYLIST LECTURES]

Q3. Write down the physical chemical degradtion of pharmaceutical products

5 MARKS

Q1. Write down the stabilization of medicinal agent (hydrolysis & oxidation) [DEPTH OF BIOLOGY]

Q2. Write a short note on accelerated stability testing

Q3. Explain photolytic degradation and its equation [DEPTH OF BIOLOGY]

Q4. Explain pseudo order reaction.

Q5. Write short note on determination of order of reaction