

B.Pharm II Year II Semester (R19) Supplementary Examinations March 2022

PHYSICAL PHARMACEUTICS – II

Time: 3 hours

Max. Marks: 75

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- What are micelles?
 - What is Faraday Tyndall effect?
 - Define thixotropy.
 - Define kinematic viscosity.
 - Define suspension.
 - What is creaming of emulsion?
 - Define adsorption and give the types of adsorption.
 - Define particle number.
 - What is zero order reaction?
 - Define half-life.

PART – B
(Answer any two questions: 02 X 10 = 20 Marks)

- Classify colloids and explain association colloids.
 - Define viscosity and explain a method of determination of viscosity.
- Discuss the steps in formulation of a deflocculated suspension.
 - Explain instabilities of emulsions.
- Explain the methods of determination of particle size.
 - What is first order kinetics? Explain.

PART – C
(Answer any seven questions: 07 X 05 = 35 Marks)

- Give the importance of rheological properties of emulsions in pharmacy.
 - What are dispersed systems? Classify and explain briefly.
- What is photolysis? How it can be prevented.
 - Briefly discuss about derived properties of powders.
- What are multiple emulsions? Give their advantages.
 - Explain falling sphere viscometer method with a neatly labelled diagram.
- What are the various kinetic properties of colloids? Discuss briefly.
 - Discuss the importance and methods of stabilization of medicinal agents.
- Explain the methods of determination of order of reactions.
 - What are adsorption isotherms? Explain about Langmuir adsorption isotherm.

Contd. in page 2

- 10 (a) Explain emulsion formulation by HLB method.
(b) Define thixotropy and explain its significance in pharmaceutical formulations.
- 11 (a) Explain optical properties of colloids.
(b) Give the physicochemical factors influencing the degradation of pharmaceutical products.
- 12 (a) Write the methods of expressing particle size and distribution.
(b) Give the differences between flocculated and deflocculated suspension.
- 13 (a) Discuss about deformation of solids and its importance in pharmacy.
(b) Briefly discuss electrical double layer in colloids.

B.Pharm II Year II Semester (R19) Supplementary Examinations March 2022
PHYSICAL PHARMACEUTICS – II

Time: 3 hours

Max. Marks: 75

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- What are micelles?
 - What is Faraday Tyndall effect?
 - Define thixotropy.
 - Define kinematic viscosity.
 - Define suspension.
 - What is creaming of emulsion?
 - Define adsorption and give the types of adsorption.
 - Define particle number.
 - What is zero order reaction?
 - Define half-life.

PART – B
(Answer any two questions: 02 X 10 = 20 Marks)

- Classify colloids and explain association colloids.
 - Define viscosity and explain a method of determination of viscosity.
- Discuss the steps in formulation of a deflocculated suspension.
 - Explain instabilities of emulsions.
- Explain the methods of determination of particle size.
 - What is first order kinetics? Explain.

PART – C
(Answer any seven questions: 07 X 05 = 35 Marks)

- Give the importance of rheological properties of emulsions in pharmacy.
 - What are dispersed systems? Classify and explain briefly.
- What is photolysis? How it can be prevented.
 - Briefly discuss about derived properties of powders.
- What are multiple emulsions? Give their advantages.
 - Explain falling sphere viscometer method with a neatly labelled diagram.
- What are the various kinetic properties of colloids? Discuss briefly.
 - Discuss the importance and methods of stabilization of medicinal agents.
- Explain the methods of determination of order of reactions.
 - What are adsorption isotherms? Explain about Langmuir adsorption isotherm.

Contd. in page 2

B.Pharm II Year II Semester (R19) Regular & Supplementary Examinations September 2022
PHYSICAL PHARMACEUTICS – II

Time: 3 hours

Max. Marks: 75

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- Give the differences between molecular and colloidal dispersions.
 - Define amphiphilic Colloids.
 - Explain Newton's law of flow.
 - What is kinematic viscosity? Give CGS unit of kinematic viscosity.
 - Define degree of flocculation for pharmaceutical suspension.
 - How surfactants act as emulsifying agent?
 - Define volume-surface mean diameter.
 - What is shape factor? What is shape coefficient for a spherical particle?
 - Explain Arrhenius equation.
 - Explain pseudo zero-order kinetics.

PART – B
(Answer any two questions: 02 X 10 = 20 Marks)

- 2 Describe capillary method for the measurement of viscosity of a Newtonian liquid.
- 3 Describe microscopic method for the determination of mean particle diameter.
- 4 (a) Discuss the strategies for preventing the oxidative decomposition of pharmaceutical products.
(b) The half-life of a drug that decomposes by first order is 55 days. Calculate first order rate constant (k_1) and shelf-life ($t_{90\%}$).

PART – C
(Answer any seven questions: 07 X 05 = 35 Marks)

- 5 Explain settling phenomenon for pharmaceutical suspension using Stoke's law.
- 6 Give the differences between flocculated and deflocculated suspension.
- 7 Write a note on "stability of lyophilic colloids".
- 8 Explain the theory of electrical double layer for colloidal system with a neat sketch.
- 9 Explain pseudoplastic flow with suitable illustrations.
- 10 Discuss the procedures for the measurement of thixotropy.
- 11 Explain various frequency distribution curves.
- 12 Discuss various packing arrangements of powders.
- 13 Derive an equation to explain first order kinetics.

B.Pharm II Year II Semester (R15) Supplementary Examinations September 2022
PHYSICAL PHARMACY – II

Max. Marks: 70

Time: 3 hours

PART – A
 (Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- What is complexation method of analysis?
 - Write down the difference between miscible and immiscible liquids.
 - Write down the difference between absorption and adsorption.
 - What is porosity in powder?
 - Explain factors influenced by particle size surface area.
 - Define angle of repose. Write its significance.
 - How is kinematic viscosity derived?
 - What is shear stress?
 - Give the examples of colloids.
 - Write down the properties of colloids.

PART – B
 (Answer all the questions: 05 X 10 = 50 Marks)

- What is the difference between Fick's first & second law?
 - Write down the applications of complexation.

OR
- What increases solubility of a gas in a liquid? Explain in detail with examples.
 - What factors affect the solubility of a gas in a liquid? Explain the effect of each factor.
- What is meant by Langmuir isotherm? What are the three assumptions of the Langmuir isotherm?
 - What are the four types of surfactants? Explain with examples along with how they work.

OR
- What is spreading coefficient and wetting property of liquid?
 - What is the difference between surface tension and interfacial tension?
- What is specific surface area? How is it measured by air permeability method?
 - How flow properties of powder can be determined? Why good flow properties are required for a powder?

OR
- Explain in detail sedimentation method for powders.
 - What is cohesiveness of powder? How do you find the density of a powder?
- How does temperature changes the viscosity in liquids and gases?
 - Explain in detail different types of viscometers. Give the application for the same.

OR
- How will you distinguish between Newtonian and non-Newtonian system? Explain with graphs.
 - Define thixotropy. Explain different methods for its determination and give its application in pharmacy.
- Give in detail the application of colloids in pharmacy.
 - What are different types of colloids? Explain with the help of example.

OR
- Which types of colloids are used as protective colloids?
 - Explain the zeta potential and nernst potential.

B.Pharm II Year II Semester (R15) Supplementary Examinations September 2022
PHYSICAL PHARMACY – II

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- What is complexation method of analysis?
 - Write down the difference between miscible and immiscible liquids.
 - Write down the difference between absorption and adsorption.
 - What is porosity in powder?
 - Explain factors influenced by particle size surface area.
 - Define angle of repose. Write its significance.
 - How is kinematic viscosity derived?
 - What is shear stress?
 - Give the examples of colloids.
 - Write down the properties of colloids.

PART – B
(Answer all the questions: 05 X 10 = 50 Marks)

- What is the difference between Fick's first & second law?
 - Write down the applications of complexation.

OR

 - What increases solubility of a gas in a liquid? Explain in detail with examples.
 - What factors affect the solubility of a gas in a liquid? Explain the effect of each factor.
- What is meant by Langmuir isotherm? What are the three assumptions of the Langmuir isotherm?
 - What are the four types of surfactants? Explain with examples along with how they work.

OR

 - What is spreading coefficient and wetting property of liquid?
 - What is the difference between surface tension and interfacial tension?
- What is specific surface area? How is it measured by air permeability method?
 - How flow properties of powder can be determined? Why good flow properties are required for a powder?

OR

 - Explain in detail sedimentation method for powders.
 - What is cohesiveness of powder? How do you find the density of a powder?
- How does temperature changes the viscosity in liquids and gases?
 - Explain in detail different types of viscometers. Give the application for the same.

OR

 - How will you distinguish between Newtonian and non-Newtonian system? Explain with graphs.
 - Define thixotropy. Explain different methods for its determination and give its application in pharmacy.
- Give in detail the application of colloids in pharmacy.
 - What are different types of colloids? Explain with the help of example.

OR

 - Which types of colloids are used as protective colloids?
 - Explain the zeta potential and nernst potential.

B.Pharm II Year II Semester (R15) Supplementary Examinations March 2022

PHYSICAL PHARMACY – II

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) What is complete miscibility in solubility of liquid in liquid?
 - (b) Write short answer on inorganic complexes.
 - (c) Write any four types of interface with examples.
 - (d) What is Nernst potential?
 - (e) What is frequency distribution curve of particle size?
 - (f) Write the adsorption method for determining surface area.
 - (g) Write a short answer on Newtonian system.
 - (h) What is kinematic viscosity?
 - (i) Define emulsion.
 - (j) What are all the types of colloids?

PART – B
(Answer all the questions: 05 X 10 = 50 Marks)

- 2 Write in detail inclusion compounds type of complexation.
- OR**
- 3 Write in detail about polar & non polar solvents of solvent solute interactions.
- 4 Explain the surface & interfacial tensions of liquid interfaces.
- OR**
- 5 Explain the spreading coefficient of liquid interfaces.
- 6 What are all the methods to find particle size & explain the Andreasen apparatus?
- OR**
- 7 What are all the derived properties of powders & explain about densities of particles?
- 8 Discuss in detail about Dilatant flow.
- OR**
- 9 Give an account on capillary viscometer.
- 10 (a) Write a detail note on lyophilic colloids.
(b) Discuss on lyophobic colloids.
- OR**
- 11 (a) Discuss on the effect of Brownian movement.
(b) Give an account on wetting of particles.
