



Total No. of Questions : 14 ]

**II/IV B. PHARMACY (SUPPLY) DEGREE EXAMINATIONS,  
FEBRUARY- 2022  
Fourth Semester  
PHYSICAL PHARMACEUTICS II - THEORY**

Time : Three Hours

Maximum : 75 Marks

**SECTION - A**

Answer any FIVE Questions.

5x10 = 50 M

1. Write the classification of colloids and explain the optical, kinetic and electrical properties of colloids.
- 2.\* Define Viscosity. Explain the factors effecting and determination of viscosity.
3. What are the different types of emulsions and explain them in detail ?
4. What are the different methods for determining the particle size ? Explain any two of them.
5. Explain the physical factors that influences the stability of pharmaceutical drug product.
6. Explain zero, first and second order kinetics.
7. Discuss the HLB method for emulsion formulation.

**SECTION - B**

Answer any FIVE Questions.

5x5 = 25 M

8. Write the classification of colloidal dispersion system, explain them briefly.
9. Define Thixotropy and how it is applied in formulation.
10. What are the preservative conditions for emulsions.
11. What are the different types of particle densities ? Explain.
12. How the hydrolysis and oxidation of a medicinal agent takes place and what are the preventive measures for that.
13. What are the applications of micromeritics ?
14. Explain rotational viscometer.



Total No. of Questions :18]

**II/IV B.PHARMACY (SUPPLY) DEGREE EXAMINATIONS, MARCH-2021****Fourth Semester  
B.PHARMACY  
PHYSICAL PHARMACY-II****Time: Three Hours****Maximum marks:70****SECTION-A****Answer any FOUR Questions****4X10=40M**

1. Write in detail about the solubility of solids in liquids and their applications.
2. Describe the methods involved in estimation of complexes.
3. Explain the decomposition of medicinal agents and suggest some suitable stabilization methods.
4. Write about different types of colloidal systems and explain concept of critical-micellar concentration.
5. Illustrate different methods for determining Particle size, particle shape and poresize.
6. Write in detail about formulation of suspension. Add a note on their rheological properties.

**SECTION-B****Answer any TEN Questions****10X3=30M**

7. Define emulgents. What are the desirable properties of an emulsifying agent.
8. What is Schulz Hardy rule? What are its applications.
9. Differentiate between Newtonian and Non-Newtonian system with examples.
10. Discuss the influence of temperature and light on reaction rates.
11. Classify complexes with examples.



12. What are surface active agents and write its importance in pharmaceutical disperse system.
13. Write a note on Interfacial properties of suspended Particles.
14. Define Viscosity. Classify different types of viscometers.
15. Define "rate", "order" and molecularity of reaction.
16. Listout the applications of micromeritics in pharmacy.
17. Listout the factors which improve physical stability of emulsion.
18. State distribution law. Write its limitations.

**PART-A**

**Answer any FOUR Questions**

**4X10=40M**

1. Name the methods of analysis of complexes and explain the pH titration method.
2. Explain the principle of accelerated stability testing and how the shelf life of a product is determined using temperature as stress condition.
3. Write about the adsorption at liquid interfaces and role of surfactants at these interfaces.
4. Define 'Rheology'. Explain non-Newtonian systems of flow and their pharmaceutical applications.
5. Explain the methods for determination of surface area of powders.
6.
  - a) What are the instability conditions of emulsions and how to prevent them?
  - b) How will you determine the type of emulsion?

**PART-B**

**Answer any TEN Questions**

**10X3=30M**

7. Define distribution law and write its applications in pharmacy.
8. Write about the influence of protein binding on drug action.
9. Differentiate between zero and first order reactions.

**P.T.O**

10. The initial concentration of hydrogen peroxide was found to be 86.85% and after 65 minutes it was found that 14.4%. Calculate the specific first order reaction rate constant and the half life of the reaction.
11. Differentiate between adsorption and absorption. Mention two applications of adsorption.
12. Write about Nernst potential.
13. Define angle of repose and Hausner ratio and mention their significance.
14. Write about sedimentation parameters.
15. Explain Newton's law of flow.
16. What is critical micellar concentration and mention its significance in pharmacy.
17. Write about protective colloid action.
18. Write the principle of cup and bob viscometer and mention its limitations.



Total No. of Questions :14]

II/IV B.PHARMACY (Regular) DEGREE EXAMINATIONS, AUG/SEP-2019

Fourth Semester

B.Pharmacy

PHYSICAL PHARMACEUTICS-II-Theory

Time: Three Hours

Maximum marks:75

## SECTION-A

Answer any FIVE Questions.

5X10=50M

1. Discuss the different types of colloidal systems and explain the concept of critical miceller concentration.
2. Explain thixotropy? Write the determination methods for viscosity and its applications in formulations.
3. Describe in detail the physical stability of emulsions. Discuss the approaches to increase their physical stability.
4. Illustrate the different methods for determining particle size, particle shape and pore size?
5. Explain the decomposition of medicinal agents and suggest suitable stabilization methods.
6. Differentiate Newtonian and Non-Newtonian systems with suitable examples.
7. Discuss how the rate of a reaction is influenced by various factors. Write a note on zero order reaction.

## SECTION-B

Answer any FIVE Questions.

5X5=25M

8. Write a short note on kinetic Properties of colloids.
9. Define Heckel equation. Discuss plastic and elastic deformation with examples.
10. Write a brief note on settling in suspensions.
11. Write a short note on Bulk density and porosity.

P.T.O

Total No. of Questions :18]

**II/IV B.PHARMACY DEGREE EXAMINATIONS, JUNE-2017****Fourth Semester****B.PHARMACY****PHYSICAL PHARMACY-II****Time: Three Hours****Maximum marks:70****SECTION-A****Answer any FOUR questions****4X10=40M**

1. Define adsorption, desorption and chemisorption. Write about HLB value and mention its significance in formulations with suitable examples.
2. What is accelerated stability testing and explain the determination of shelf life of a product using temperature as stress conditions. What are its limitations?
3. What are colloids? Write about their kinetic properties and pharmaceutical applications.
4. Define 'Rheology'. Explain non-Newtonian systems of flow and their pharmaceutical applications.
5. Explain the interfacial properties of suspensions. Write about sedimentation parameters and their significance in suspension evaluation.
6. Explain the methods for improving solubility of solids in liquids citing suitable examples.

**SECTION-B****Answer any TEN questions****10X3=30M**

7. What are inclusion complexes and mention their applications.
8. Write about Nernst potential and its applications.
9. Write about the application of Nernst's law of distribution in pharmacy.
10. Name the methods for determination of order of reaction and explain one method.
11. Define critical micellar concentration and write about its applications.
12. Explain the principle of cup and bob viscometer. What are its limitations?
13. Define angle of repose and mention its significance.
14. What is yield value and what is its significance? What type of systems exhibit this?
15. Differentiate between flocculated and deflocculated suspensions.
16. Write about the significance of bulk density and true density.

**P.T.O**



17. Write about emulsifying agents suitable for w/o type of emulsions.
18. A solution of glucose in aqueous solution with a concentration of 0.056 Moles/liter found to follow first order decomposition. The concentration after a period of 12 hours was found to  $4.10 \times 10^{-2}$  moles/litre. Estimate the amount of glucose lost during the period of 24 hours.



**II/IV B.PHARMACY DEGREE EXAMINATIONS, JUNE/JULY- 2016****Fourth Semester****PHYSICAL PHARMACY-II**

Time: Three Hours

Maximum marks:70

**SECTION-A****Answer any FOUR questions.****4x10=40M****All questions carries equal marks.**

1. Differentiate between flocculated and deflocculated suspensions. Write about the significance of sedimentation parameters in the evaluation of suspensions.
2. Write about the factors influencing the reaction rates.
3. Explain the methods for improving solubility of poorly soluble drugs.
4. Give the classification of colloids and explain the optical and electric properties of colloids.
5. Write about Langmuir and BET adsorption isotherms.
6. Explain the non-Newtonian systems of flow and their pharmaceutical applications.

**SECTION-B****Answer any TEN questions.****10x3=30M**

7. Give the classification of emulsifying agents with suitable examples.
8. Write the principle of cup and bob viscometer.
9. Write about the applications of polymer complexes.
10. Define angle of repose and mention its significance.
11. Write about critical micellar concentration and its significance.
12. Write about the effect of pressure on the solubility of gases.
13. Write the principle of determination of order by half life method.
14. Define bulk density and porosity and mention their applications.
15. Write the principle of preservation of emulsions.
16. In the saponification of methyl acetate at 25°C, the molar concentration of sodium hydroxide remaining after 75 minutes was 0.00552 M. The initial concentration of methyl acetate and sodium hydroxide was each 0.01 M. Calculate the second order rate constant.
17. Mention the significance of Nernst potential
18. Define Newton's law of flow.