

August 2011

[KZ 4256]

Sub. Code : 4256

SECOND B.PHARM. EXAMINATION
Paper I – PHYSICAL PHARMACEUTICS

Q.P. Code : 564256

Time : Three hours

Maximum: 100 Marks

Answer ALL questions.

I. LONG ESSAYS

(2 x 20 = 40)

1. a) Explain Critical micellar concentration, theories of micelle formation.
b) Electrical properties of interfaces.
2. Write about the various decomposition and stabilization study of medicinal agents.

II. SHORT NOTES

(8 x 5 = 40)

1. Noyes Whitney equation.
2. Colloidal properties.
3. Settling of suspensions.
4. First order reaction.
5. Explain the term Micromeritics.
6. Pharmaceutical applications of Rheology.
7. Give a brief account of inclusion compounds.
8. pH determination and its applications.

III. SHORT ANSWERS

(10 x 2 = 20)

1. Define diffusion.
2. Types of colloids.
3. Deflocculating agents.
4. Factors influencing the physical stability of emulsion.
5. Accelerated stability studies.
6. Methods of determining surface area.
7. Newtonian system. 8. Binding equilibria.
9. Give examples for polymer complexes.
10. Define sedimentation volume.

[LB 4256]

AUGUST 2012

Sub. Code: 4256

SECOND YEAR B.PHARM. EXAM
Paper I – PHYSICAL PHARMACEUTICS

Q.P. Code: 564256

Time: Three hours

Maximum: 100 Marks

(180 Min) Answer ALL questions in the same order.

I. Elaborate on:

Pages Time Marks
(Max.)(Max.)(Max.)

- | | | | |
|---|----|----|----|
| 1. a. Define interfacial tension? Discuss the classification & application of surfactant? | | | |
| b. Explain about types of colloids. | 19 | 33 | 20 |
| 2. a. What is meant by Rheology? Give an account of shear thickening system? | | | |
| b. Write briefly about various methods of determining particle size. | 19 | 33 | 20 |

II. Write notes on:

- | | | | |
|---|---|---|---|
| 1. Noyes Whitney equation. | 3 | 8 | 5 |
| 2. Spreading coefficient. | 3 | 8 | 5 |
| 3. Cup and Bop viscometer. | 3 | 8 | 5 |
| 4. Diffusion layer model theory. | 3 | 8 | 5 |
| 5. Controlled flocculation. | 3 | 8 | 5 |
| 6. How do you predict shelf life. | 3 | 8 | 5 |
| 7. Define micro meritics. Discuss the applications. | 3 | 8 | 5 |
| 8. Inclusion complexes. | 3 | 8 | 5 |

III. Short Answers:

- | | | | |
|---------------------------|---|---|---|
| 1. Define Emulsion. | 1 | 5 | 2 |
| 2. Yield value. | 1 | 5 | 2 |
| 3. Dielectric constant. | 1 | 5 | 2 |
| 4. Zero order reactions. | 1 | 5 | 2 |
| 5. Stability of emulsion. | 1 | 5 | 2 |
| 6. Polymorphism. | 1 | 5 | 2 |
| 7. Kraft. | 1 | 5 | 2 |
| 8. Kinematic viscosity. | 1 | 5 | 2 |
| 9. Specific gravity. | 1 | 5 | 2 |
| 10. Porosity. | 1 | 5 | 2 |

[LC 4256]

FEBRUARY 2013

Sub. Code: 4256

SECOND YEAR B.PHARM. EXAM
Paper I – PHYSICAL PHARMACEUTICS

Q.P. Code: 564256

**Time : Three hours
(180 Min)**

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40 marks)

1. Describe about the different methods of analysis of complexes with examples.
2. Discuss about the preparation and evaluation of pharmaceutical suspensions.

II. Write notes on:

(8 x 5 = 40 marks)

1. Explain the principles of gastro intestinal absorption of drugs.
2. What is buffer capacity? How do you determine the buffer capacity?
3. Describe the derived properties of powders.
4. Write the applications of rheology in pharmacy.
5. Explain the factors influencing rate of reaction.
6. Write notes on spreading coefficient.
7. Discuss about instabilities of emulsion.
8. Describe the optical properties of colloids.

III. Short Answers:

(10 x 2 = 20 marks)

1. Half life.
2. Thixotropy.
3. Protein binding of drugs.
4. Applications of colloidal system.
5. Solubilization.
6. Hydrophilic lipophilic balance.
7. Viscosity.
8. Multiple emulsions.
9. Protective colloids.
10. Examples of pharmaceutical buffers.

(LD 4256)

AUGUST 2013

Sub. Code: 4256

**SECOND YEAR B.PHARM. EXAM
PAPER I – PHYSICAL PHARMAEUTICS**

Q.P. Code: 564256

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X20=40)

1. a) Explain objectives, procedures and limitations of accelerated stability testing.
b) Explain briefly on degradation and stabilization of pharmaceutical products.
2. What is complexation and brief about different types of complexes?
Explain any two methods of complex analysis.

II. Write notes on:

(8X5=40)

1. Briefly explain the diffusion principles in biological systems
2. Write short notes on different colloidal systems
3. Explain protein binding of drugs.
4. Discuss Sedimentation technique that used for particle size analysis.
5. Describe Cone and Plate viscometer
6. Explain instabilities of emulsion
7. Explain pharmaceutical applications of surfactants according to HLB values.
8. Discuss shear thickening systems with suitable examples.

III. Short Answers on:

(10X2=20)

1. Factors causing breaking in emulsion
2. Zeta potential
3. Noyes Whitney equation
4. Define Yield value in plastic systems
5. Thixotrophy
6. Porosity
7. Define Glidants with suitable examples.
8. Buffer capacity
9. Dissolution
10. Factors influencing CMC

(LE 4256)

FEBRUARY 2014

Sub. Code: 4256

**SECOND YEAR B.PHARM. EXAM
PAPER I – PHYSICAL PHARMAEUTICS**

Q.P. Code: 564256

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X20=40)

1. a) Define suspensions. Explain setting properties of suspensions.
b) Explain different types colloids.
2. a) Define thixotropy. Types of thixotropy. Measurement and application of thixotropy.
b) Write about the flow properties of powder.

II. Write notes on:

(8X5=40)

1. Explain the electric double layer of interface.
2. Write about the applications of surfactant.
3. Short notes on Inclusion complexes.
4. Write the methods to determine the order of reaction.
5. Explain coulter counter apparatus.
6. Isotonic solutions.
7. Fick's laws of diffusion.
8. Theories of emulsion.

III. Short Answers on:

(10X2=20)

1. CMC.
2. Chelates.
3. Ferrocene.
4. Rheopexy.
5. Noyes-Whitney equation.
6. Surface and interfacial tension.
7. Edmunson equation.
8. HLB.
9. AST.
10. Flocculation and coalescence.

[LF 4256]

AUGUST 2014

Sub. Code: 4256

SECOND YEAR B.PHARM. DEGREE EXAMINATION

Paper I – PHYSICAL PHARMACEUTICS

Q. P. Code: 564256

Time: Three Hours

Maximum: 100 Marks

Answer All Questions

I. Essay Questions:

(2 x 20 = 40)

1. a) What is Kinetics? Define order of reaction.
Distinguish between the first order and zero order reaction.
Explain the methods to determine the order of reaction.
- b) Methods to determine specific surface area of powders.
2. a) What is an emulgent. Classify emulgents with suitable example.
Explain the mechanism of action of emulgent.
- b) Write about the Fick's laws of diffusion.

II. Short Notes:

(8 x 5 = 40)

1. Isotonic solutions and tonicity adjustment.
2. Inorganic complexes in pharmacy.
3. Electric properties of interface.
4. Thioxytropy.
5. Purification of colloids.
6. Stability of suspensions with sedimentation parameter.
7. Explain Do-nouy ring method.
8. Significance of protein binding.

III. Short Answers:

(10 x 2 = 20)

1. Spreading coefficient.
2. Carrier mediated transport.
3. CMC.
4. Bancraft rule.
5. Creaming and cracking.
6. Porosity.
7. Edmunson equation.
8. HLB.
9. Types of viscometer.
10. Non-newtonian system.
