[LB 4257] **AUGUST 2012** **Sub. Code: 4257**

SECOND YEAR B.PHARM. EXAM

Paper II – PHARMACEUTICAL ANALYSIS AND PHYSICAL CHEMISTRY

Q.P. Code : 564257

Time : Three hours **Maximum: 100 Marks**

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

Answer Section A and B in SEPARATE Answer Book.

SECTION A
(PHARMACEUTICAL ANALYSIS)

I. Elaborate on:	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. a) Explain in detail about oxygen flask combustion method? b) Masking and de-masking agents in complexometric titrations.	19	33	20
II. Write notes on:			
1. How do you determine the acid value?	3	8	5
2. Write notes on dead stop end point?	3	8	5
3. Write the mechanism of buffer and its applications?	3	8	5
4. What is Gasometry? Give the procedure for the assay of oxygen?	3	8	5
III. Short Answers:			
1. Define iodometry?	1	5	2
2. Give the example of acid-base indicators?	1	5	2
3. What is plane polarized light? How it is achieved?	1	5	2
4. Define chelating agents?	1	5	2
5. What is a real and ideal solution?	1	5	2

SECTION – B
(PHYSICAL CHEMISTRY)

IV. Elaborate on:			
2. Define and explain the various types of colligative properties. Write the methods used for determining the elevation of boiling point?	19	33	20
V. Write notes on:			
1. Explain Debye-Huckel's theory?	3	8	5
2. Explain Phase rule and the terms phase, component and degrees offreedom?	3	8	5
3. What is plane polarized light? How it is achieved?	3	8	5
4. Explain Hess law of constant heat of summation?	3	8	5
VI. Short Answers:			
1. Define partition co-efficient?	1	5	2
2. State second law of thermodynamics?	1	5	2
3. What is Nernst distribution?	1	5	2
4. Define order of reaction?	1	5	2
5. What is adsorption?	1	5	2

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[LC 4257] **FEBRUARY 2013** **Sub. Code: 4257**

SECOND YEAR B.PHARM. EXAM

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Q.P. Code : 564257

Time : Three hours **Maximum: 100 Marks**

(180 Min)

Answer Section A and B in SEPARATE Answer Book.

SECTION – A
(PHARMACEUTICAL ANALYSIS)

I. Elaborate on: **(2x10=20 marks)**

1. a) Explain the different types of complexometric titrations by using various titrants with suitable examples.
   b) Masking and demasking agents in complexometric titrations.

II. Write notes on: **(4x5=20 marks)**

1. Write the importance of quality control of drugs.
2. Write a note on kjeldhal method of nitrogen estimation.
3. Define co-precipitation and post precipitation. Give notes on various step involved in Gravimetric analysis.
4. Give the Henderson- Hasselbalch equation.

III. Short Answers: **(5x2=10 marks)**

1. Werner's co-ordination number.
2. Define common ion effect.
3. Give some examples of oxidizing and reducing agents.
4. Define Redox potential.
5. Define Accuracy.

SECTION – B
(PHYSICAL CHEMISTRY)

I. Elaborate on: **(2x10=20 marks)**

1. a) Explain the Second law of Thermodynamics.
   b) Explain in detail about the Joule-Thomson effect.

II. Write notes on: **(4x5=20 marks)**

1. Explain the carnots cycle.
2. Define Adsorption isotherm. Explain freundlisch adsorption isotherm.
3. Write in detail about the Bomb calorimeter.
4. Explain the Assay of Oxygen.

III. Short Answers: **(5x2=10 marks)**

1. Define internal energy.
2. Enthalpy of a reaction.
3. Define catalyst.
4. Define ideal solutions and real solutions.
5. Define Adsorption.

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(LD 4257) **AUGUST 2013** **Sub. Code: 4257**

SECOND YEAR B.PHARM. EXAM

PAPER II – PHARMACEUTICAL ANALYSIS & PHYSICAL CHEMISTRY

Q.P. Code: 564257

Time: Three Hours **Maximum: 100 marks**

Answer All Questions

Answer Section-A and B in separate Answer Book

SECTION-A

(Pharmaceutical Analysis)

I. Elaborate on: **(1 x 20 =20)**

1.a) What is buffer solution and explain about the buffer mixture of a weak acid and weak base and its salts.

b) Explain in detail about the Non aqueous titrations.

II. Write Notes on: **(4 x 5 =20)**

1. Write a note on diazotization titrations.
2. Explain complexometric titrations.
3. Write a note on Mohrs method and Fajan's method.
4. Write a note on standardization of perchloric acid.

III. Short Answers: **(5 x 2 =10)**

1. Define precision.
2. Define iodimetry.
3. Define law of mass action.
4. Calibration of volumetric apparatus.
5. Choice of indicators.

SECTION-B

(Physical Chemistry)

I. Elaborate on: **(1 x 20 =20)**

1. a) Define rate of reaction clarify with suitable examples and derive the equation for first order reaction.

b) Explain Hess's law of constant heat of summation**.**

II. Write Notes on: **(4 x 5 =20)**

1. Define Colligative properties.
2. Joule-Thomson effect.
3. Define solutions with its types.
4. Write about the factors affecting the rate of chemical reaction.

III. Short Answers: **(5 x 2 =10)**

1. Trouton's rule.
2. Define Phase rule.
3. Freundlisch adsorbtion isotherm.
4. Enthalpy of combustion.
5. Second law of thermodynamics.

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(LE 4257) **FEBRUARY 2014** **Sub. Code: 4257**

SECOND YEAR B.PHARM. EXAM

PAPER II – PHARMACEUTICAL ANALYSIS & PHYSICAL CHEMISTRY

Q.P. Code: 564257

Time: Three Hours **Maximum: 100 marks**

Answer All Questions

Answer Section-A and B in separate Answer Book

SECTION-A
(Pharmaceutical Analysis)

I. Elaborate on: **(1 x 20 =20)**

1. a) Explain the various types of solvents used in Non – aqueous titration.
   b) Write in detail about preparation and standardisation of acetous perchloric acid including the precautions to be taken.

II. Write Notes on: **(4 x 5 =20)**

1. Write notes on Modified Volhard's method.
2. Explain choice of indicators in acid – base titrations.
3. Give an account on the preparation and standardisation of cerric ammonium sulphate.
4. Write notes on pM indicators.

III. Short Answers: **(5 x 2 =10)**

1. Define redox potential.
2. What is Lewis theory of acids and bases?
3. Define saponification value.
4. What is iodometry?.
5. Define normality and molarity.

SECTION-B
(Physical Chemistry)

I. Elaborate on: **(1 x 20 =20)**

1. a) Define order of reaction. Explain the various methods for determining the order of reaction.
   b) State and explain First Law of Thermodynamics

II. Write Notes on: **(4 x 5 =20)**

1. Write a note on characteristics of catalyst.
2. State Raoult's law.
3. Calculate the half life of first order reaction.
4. Explain Partition co-efficient with limitation.

III. Short Answers: **(5 x 2 =10)**

1. What is Parachor?
2. Define Eutectic point.
3. What are Positive and Negative Catalysts?
4. Define Triple Point.
5. Define Enthalpy of formation.

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[LF 4257] **AUGUST 2014** **Sub. Code: 4257**

SECOND YEAR B.PHARM. DEGREE EXAMINATION

Paper II – PHARMACEUTICAL ANALYSIS & PHYSICAL CHEMISTRY

Q. P. Code: 564257

Time: Three Hours **Maximum: 100 Marks**

Answer All Questions

Answer Section-A and B in separate Answer Book

SECTION-A
(PHARMACEUTICAL ANALYSIS)

I. Essay: **(2 x 20 = 40)**

1. a) Explain in detail about theory of acid-base indicators with example.

   b) Give an account on diazotization titration.

II. Short Notes: **(4 x 5 = 20)**

1. Write note on calibration of apparatus
2. Preparation and standardization of perchloricacid
3. P^M Indicators
4. Mohr's method.

III. Short Answers: **(5 x 2 = 10)**

1. Buffer
2. Quality control
3. Redox Indicator
4. Chelation
5. Saponification value.

SECTION-B
(PHYSICAL CHEMISTRY)

I. Essay: **(2 x 20 = 40)**

1. a) Explain about methods of determination of depression of freezing point

   b) Theories of rate of reaction.

II. Short Notes: **(4 x 5 = 20)**

1. Explain bond energic with example
2. First law of thermodynamics
3. Langmuir isotherm
4. Theory of catalysis

III. Short Answers: **(5 x 2 = 10)**

1. Define Spontaneous process
2. Colligative properties with example
3. Exo and Endo thermic reactions
4. Refractive index
5. Phase.

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