

FEBRUARY - 2007

[KQ 740]

Sub. Code : 4231

SECOND B.Pharm. DEGREE EXAMINATION.

(Regulations 2004)

Paper II — PHARM ANALYSIS AND PHYSICAL
CHEMISTRY

Time : Three hours

Maximum : 90 marks

Theory : Two hours and
forty minutes

Theory : 70 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer Section A and B Separately.

PART I — PHARMACEUTICAL ANALYSIS

SECTION A

Answer any ONE

I. Long Essay : (1 × 20 = 20)

1. (a) What is buffer solution and explain about the buffer mixture of a weak acid and a weak base and its salts. (10)

(b) Write a note on Henderson's equation. (10)

2. (a) Give the mechanism of diazotization reaction and write a note on detection of end point in diazotization titration. (10)

(b) Selecting suitable examples bring out the importance of ceric ammonium sulphate titrant in pharmaceutical analysis. (10)

Answer any THREE

II. Short notes : (3 × 5 = 15)

1. Write a note on Kjeldhal's method of nitrogen estimation.

2. Explain the preparation and standardization of acetous perchloric acid volumetric solution, including the precautions to be taken.

3. What is co-precipitation and post precipitation and give notes on various steps involved in gravimetric analysis.

4. Explain the use of the masking and demasking agents in complexometry.

5. Write a note on theories of acid-base indicators with examples.

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PART II — PHYSICAL CHEMISTRY

SECTION B

Answer any ONE

I. Long essay : (1 × 20 = 20)

1. (a) Define Raoult's law and establish it. Explain how it can be used for the experimental determination of the molecular weight of a dissolved substance.

(b) Explain nernst distribution law and briefly explain its applications.

2. (a) Define order of reaction and specify the types. Derive integrated rate law equation for first order.

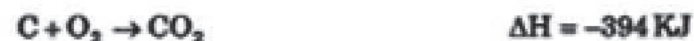
(b) Explain on Debye-Huckel theory.

Answer any THREE

II. Short notes : (3 × 5 = 15)

1. Define phase rule and explain the terms phase, component and degree of freedom.

2. Calculate the enthalpy of formation of benzene from the following data



3. State the second law of thermodynamics and explain the principle and working of carnot's cycle.

4. Differentiate physical and chemical adsorption and describe the factors influencing adsorption.

5. State and illustrate Hess's law of constant heat summation.