AUGUST - 2006

[KP 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.

SECTION A

(PHARMACEUTICAL ANALYSIS)

I.   Long Essay :   (1 × 20 = 20)

Write any ONE question.

1.   Explain the theories of Indicators and selection of Indicators for acid-base titration. What do you mean by mixed indicators and Universal indicators? Mention their use.

2.   What are the types of complexometric titrations? Explain them with examples. Add a note on complexometric titration of mixture of metal ions including the use of masking and demasking agents.

II.   Short notes :   (3 × 5 = 15)

Write any THREE questions.

1.   Write notes on the types of errors in analysis with examples. How are they minimised?

2.   How will you prepare and standardise aceteous porchloric acid volumetric solution? What are the precautions to be taken in the preparation.

3.   Write notes on redox indicators.

4.   Explain co-precipitation and post precipitation. How do they affect gravimetric analysis?

5.   Write notes on Oxygen flask method.

SECTION B

(PHYSICAL CHEMISTRY)

I.   Long Essay :   (1 × 20 = 20)

Write any ONE question.

1.   What do you mean by colligative properties? Give examples. Explain the determination of molecular weight by 'elevation of boiling point' including derivation of molal elevation constant and determination of elevation of boiling point.

2. (a) What is rate of reaction? Name the types with examples and derive equation for first order reaction.

(b) Explain Hess's Law of constant heat of summation.

II. Short notes : $(3 \times 5 = 15)$

Write any THREE questions.

1. Explain Nernst's Distribution Law and the effect of dissociation and association of a molecule on partition co-efficient.

2. Define adsorption and Chemisorption. Explain the factors affecting adsorption.

3. Write notes on activation energy.

4. Write notes on Joule-Thomson effect.

5. What do you mean by internal energy and enthalpy of a system. Derive the relation between ΔH and ΔE.