

August-2007

[KR 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 × 15 = 15)

Write any ONE question.

1. (a) Explain the theories of indicators and selection of indicators for acid base titrations.

(b) Explain in detail the Henderson-Hasselbalch equation.

2. (a) Give the theory of Non-aqueous titrations. Explain the preparation and standardisation of acetons perchloric acid including the precautions to be taken.

(b) What is the mechanism involved in the diazotisation reaction and write a note on detection of end point in diazotisation titrations.

II. Short notes :

(4 × 5 = 20)

Answer any FOUR questions.

1. What is Gasometry? Give the procedure for the assay of oxygen.

2. Explain the various steps involved in Gravimetric analysis.

3. Write notes on Kjeldhal method of nitrogen estimation.

4. How do you determine the Acid value and saponification value of the given oil.

5. Give a note on masking and demasking agents.

6. Theories of acid-base indicators with examples.

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**SECTION B**

**(PHYSICAL CHEMISTRY)**

III. Long Essay : (1 × 15 = 15)

Write any ONE question.

1. (a) State and explain Hess's law of constant heat summation.

(b) Define

(i) Enthalpy of neutralisation.

(ii) Enthalpy of combustion.

2. What are colligative properties? Give examples. Explain any two in detail.

IV. Short notes : (4 × 5 = 20)

Answer any FOUR questions.

1. Explain Carnots cycle.

2. What is Joule-Thomson effect? Give a short note.

3. What are different types of adsorption isotherms. Explain.

4. State the phase rule and its limitations and advantages.

5. Explain the concept of Activation energy.

6. Define phase rules and explain the terms phase, component and degree freedom.