Exam.Code:0432
Sub. Code: 3449

2071

M.Sc. (Applied Chemistry/Pharmaceutical) Second Semester

Paper – 203: Analytical Chemistry

Time allowed: 3 Hours Max. Marks: 60

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.*

x-x-x

I. Attempt the following:-

a) What is HPTLC? Tell briefly.

b) How IR spectroscopy differs from Raman spectroscopy? Write differences in tabular form.

c) Write a brief note on silver-silver chloride electrode.

d) What are applications of refractometry? (4x3)

UNIT – I

II. a) Explain principle and construction of combination glass electrode with applications.

b) What is Ostward dilution law? Derive an expression for it. (6,6)

III. a) Discuss in detail about amperometric titrations. Tell advantages and disadvantages also.

b) Explain theory, working and applications of polarography. (6,6)

UNIT – II

IV. a) Discuss principle and working of refractometer with schematic diagram.

b) Discuss and compose CD and ORD. (Circular Dichroism and Optical Rotatory Disperssion) (6,6)

V. a) Discuss basic principle of atomic absorption spectrophotometry. How it differs from flame emission spectrophotometry?

b) Write in detail about continuous and discrete atomizers. (6,6)

UNIT – III

VI. a) Discuss in detail Craige's method of multiple extraction.

b) Write a complete note on continuous counter-current extraction. (6,6)

P.T.O.

VII. a) Discuss in detail theory, principle and applications of Raman Spectroscopy.

b) How liquid-liquid extraction differs from liquid-solid extraction. Tell with examples. (6,6)

UNIT – IV

VIII. Discuss the following in detail:-

a) Dupont Analyzer

b) Electrolytic hygrometer (6,6)

IX. a) Discuss in detail about GLC.

b) Write a note on Super Critical Fluid Chromatography. (6,6)

x-x-x