

(LB 4270)

FOURTH YEAR B.PHARM. EXAM
PAPER IV – MODERN METHODS OF PHARMACEUTICAL ANALYSIS
Q.P. Code: 564270
Time: Three Hours
Maximum: 100 marks
(180 Min) Answer ALL questions in the same order
I. Elaborate on:
**Pages Time Marks
(Max.)(Max.)(Max.)**

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|--|----|----|----|
| 1. (a) Define Chemical Shift. Explain the factors affecting chemical shift. | | | |
| (b) Write the principle, working procedure, types and applications of Radio Immuno Assay. | 19 | 33 | 20 |
| 2. (a) Write the theory, apparatus, working and applications of Polarography. | | | |
| (b) Define electrophoresis. Explain in detail about Gel electrophoresis and Capillary electrophoresis. | 19 | 33 | 20 |

II. Write notes on:

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| 1. Write a note on ultracentrifugation. | 3 | 8 | 5 |
| 2. Explain the types of columns used in High Performance Liquid Chromatography. | 3 | 8 | 5 |
| 3. What are the types of ion exchange resins used in ion exchange chromatography? Explain. | 3 | 8 | 5 |
| 4. Write the identification and quantification procedures involved in the separation of individual components from mixture by Thin Layer Chromatography. | 3 | 8 | 5 |
| 5. Write the principle involved in the separation of amino acids by Paper Chromatography. Explain the reaction of amino acid with Ninhydrin reagent. | 3 | 8 | 5 |
| 6. Write the principle, instrumentation and applications of Nephelometry. | 3 | 8 | 5 |
| 7. Explain the sampling techniques for solids in IR Spectrophotometry. | 3 | 8 | 5 |
| 8. How will you calculate λ max by Woodward –Fischer rule? | 3 | 8 | 5 |

III. Short Answers:

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|---|---|---|---|---|
| 1. Bathochromic shift and Hypsochromic shift. | 1 | 5 | 2 | |
| 2. Relationship between concentration and fluorescence intensity. | 1 | 5 | 2 | |
| 3. Hollow Cathode Lamp. | 1 | 5 | 2 | |
| 4. Reverse Phase Chromatography. | 1 | 5 | 2 | |
| 5. Junction potential. | 1 | 5 | 2 | |
| 6. Equivalent Conductance and Molecular conductance. | 1 | 5 | 2 | |
| 7. Spin – Spin Coupling. | 1 | 5 | 2 | |
| 8. Molecular ion peak. | 1 | 5 | 2 | |
| 9. Capacity factor | | 1 | 5 | 2 |
| 10. Nernst – Glowe | 1 | 5 | 2 | |
