

[LH 4270]

AUGUST 2015

Sub. Code: 4270

**B.PHARM. DEGREE EXAMINATION****FOURTH YEAR****PAPER IV – MODERN METHODS OF PHARMACEUTICAL ANALYSIS***Q.P. Code: 564270***Time : Three Hours****Maximum : 100 marks****Answer ALL questions****I. Essay:****(2 x 20 = 40)**

1. a) Write the theory and instrumentation of Polarography.  
b) Write the deviations from Beer's law.  
c) Write the sampling techniques used in IR spectrophotometry.
2. a) Explain the detectors used in Gas Chromatography.  
b) Explain in detail about chemical shift and spin-spin coupling.

**II. Short notes :****(8 x 5 = 40)**

1. Write a note on Radio immuno Assay.
2. What are the methods used to find the distance between the crystal plane by X –ray diffraction analysis? Explain the working of Bragg's spectromete
3. Write a note on electron impact ionization.
4. How will you measure conductance? Explain with neat diagram.
5. Write the different types of electrodes used in electrochemical methods of analysis. Explain the construction and working of Saturated Calomel Electrode.
6. Write a note on moving boundary electrophoresis.
7. Explain the factors affecting the intensity of fluorescence.
8. How will you calculate  $\lambda_{\max}$  by Woodward – Fischer rule?

**III. Short answers:****(10 x 2 = 20)**

1. Define Equivalent conductance
2. What is Reverse Phase Chromatography?
3. Define Resolution
4. List any two stationary phase used in TLC.
5. Define RF value and R<sub>x</sub> value
6. Mention the light source and detectors used in AAS.
7. List any four detectors used in IR spectroscopy.
8. Define Quenching.
9. Define Bathochromic shift and Hypsochromic shift.
10. Define Electrode potential. Mention example for indicator electrode.

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