(LF 4270) **AUGUST 2014** **Sub. Code: 4270**

FOURTH YEAR B.PHARM. EXAM
PAPER IV – MODERN METHODS OF PHARMACEUTICAL ANALYSIS

Q.P. Code: 564270

Time: Three Hours **Maximum: 100 marks**

I. Essay: **(2X20=40)**

1. a. Write the principle, preparation, procedure and method of detection in Column chromatography.
   b. What is the different carrier gases used in gas chromatography and what are the ideal requirements of the carrier gas. Also give the application of gas chromatography.
2. a. Give the principle, theory instrumentation of mass spectrometer and application of mass spectroscopy.
   b. Describe the principle and instrumentation involved in Flame emission spectroscopy.

II. Short notes: **(8X5=40)**

1. Describe with neat diagram the working principles of nepheloturbidimeter.
2. Explain the different types of detection technique used in paper chromatography.
3. Explain the current voltage curve and various currents in polarographic measurements.
4. Explain amperometric titrations of curves with example.
5. What is principle and procedure for ultra-centrifuge?
6. Explain shielding, de-shielding and spin coupling in NMR spectroscopy.
7. Describe the parameters of analytical method validation.
8. Write on Radioimmunoassay.

III. Short Answers: **(10X2=20)**

1. Define Chromophores and Auxochromes.
2. Explain photoelectric colorimeter.
3. What is Rf value and retention volume?
4. Explain the term quenching.
5. What is finger print region?
6. Draw the conductometric titration curve for a strong acid vs a mixture of strong and weak base.
7. Give bragg's equation in x-ray diffraction technique.
8. What are polarographicsupressors?
9. What is function of filter and monochromator?
10. Explain electrochemical cell.

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