(LJ 4270) AUGUST 2016 **Sub. Code: 4270**

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

Q.P. Code: 564270

Time: Three hours **Maximum: 100 Marks**

I. Essay: **(2 x 20 = 40)**

1. With a neat diagram, explain the principle, different vibrational modes of molecules, instrumentation and applications of Infrared spectrophotomete

2. a) Explain the principle and instrumentation of flame emission spectroscopy.
   b) Describe the principle and different types of conductometric titrations with examples.

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

1. Explain the various factors that affect the fluorescent intensity.
2. Describe the working principle and instrumentation of nephelomete
3. Explain the different type of electronic transitions involved in UV spectroscopy with examples.
4. Describe the construction and working of dropping mercury electrode with a diagram.
5. Describe briefly the various parameters involved in the calibration and validation of analytical instruments.
6. Explain the principle, different type of ion exchange resins and mechanism involved in ion exchange chromatography.
7. Explain the principle and applications of X-ray diffraction technique.
8. Explain the various methods of detection of compounds in thin layer chromatography.

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

1. Define chromophore and hypsochromic shift.
2. Define retention time and retention volume.
3. What is ultracentrifugation?
4. List at least four different type ions produced in mass spectra.
5. What is HETP? How it is related to number of theoretical plates and length of the column?
6. Mention two examples each of reference and indicator electrode.
7. Define finger print region.
8. Write any two differences between NMR and ES
9. Define tailing facto
10. Write any two limitations of GLC.

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