THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

(LO 4270) FEBRUARY 2019 **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**

I. Elaborate on: **(2 x 20 = 40)**

1. Write the procedure, types of currents and applications of polarography.
2. a) Write the principle, working procedure, advantages and applications of Radio Immuno Assay.
   b) Draw and label a X-ray diffraction spectrophotometer and explain the working of each part of the instrument.

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

1. Write a note on analyser used in mass spectroscopy.
2. How will you measure specific conductance? Explain with neat diagram.
3. Write the identification and quantification procedures involved in the separation of individual components from mixture by high performance liquid chromatography.
4. Write the mechanism involved in ion exchange chromatography.
5. Explain the different validation parameters of an analytical method.
6. What are different types of peaks in mass spectrum and write their significance in structural elucidation?
7. Write the working of any two HPLC detectors.
8. Write a note on detection techniques applied in Thin Layer Chromatography.

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

1. Spin-spin coupling.
2. What is gradient elution technique?
3. Stationary phases used in gas liquid chromatography.
4. Define auxochrome.
5. Internal standards used in electron spin resonance spectroscopy.
6. Write the significance of salt bridge in reference electrode of potentiometry.
7. Write the precautions of conductometric titrations.
8. Applications of gel filtration chromatography.
9. Define fingerprint region and write its significance in Infra Red spectrum.
10. Difference between fluorescence and phosphorescence.

****