[LA 340] **MAY 2012** **Sub. Code: 2901**

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

PAPER I – MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

(Common to all Branches)

Q.P. Code: 262901

Time: 3 hours **Maximum: 100 marks**

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on:	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. a) Explain the theory of Electronic Spectroscopy and the different types of electronic transitions encountered in UV Spectroscopy. b) Explain the terms Chromophore and Auxochromes with examples. c) Discuss the Woodward Fieser Rules for calculating Absorption maximum in dienes.	17	40	20
2. a) Explain the different relaxation Process in NMR Spectroscopy by which a nucleus in an upper transition state returns to the lower state. b) Describe the instrumentation of an NMR Spectrophotometer. c) Draw a neat sketch of the NMR Spectrum you expect to get for 1, 1- dibromoethane	17	40	20
II. Write notes on :			
1. Describe the construction and working of the following: a) Hollow cathode lamp used as light source in Atomic Absorption Spectroscopy b) Photomultiplier Tube.	4	10	6
2. Draw a schematic diagram of a Gas Chromatograph set up and briefly explain the working.	4	10	6
3. Discuss the important features of the parent ion peak in Mass Spectrometry.	4	10	6
4. Discus the important factors affecting Differential Thermal Analysis.	4	10	6
5. Write a short note on the principle underlying Ion Exchange Chromatography.	4	10	6
6. State Bragg's Law. Explain the X-Ray Powder Diffraction method.	4	10	6
7. Explain Circular Dichroism and its relationship to Optical Rotatory Dispersion.	4	10	6
8. Explain the different Sampling Techniques employed in Infrared Spectrophotometry.	4	10	6
9. a)State the properties of Coefficient of Correlation. b) How will you interpret a value of r=0?	4	10	6
10. Discuss briefly the essential components of a research report.	4	10	6

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