QP Code: 101350 **Reg No: ……**

First Year M.Pharm Degree Examinations July 2015

Modern Analytical and Research Methods

(Common for all branches)

Time: 3 hrs **Maximum Marks: 100**

- ***Answer all questions***
- ***Draw diagrams wherever necessary***

Essays: **(2x20 =40)**

1. Explain the principle and instrumentation of double beam UV-Visible spectrophotometer. Mention its pharmaceutical application

2. Describe in detail the principle and instrumentation of HPLC. Explain various detectors used in GC.

Short Essays: **(6x10=60)**

3. What is Hooke's law equation and mention its significance. Add a note on factors influencing stretching vibrations.

4. Explain the terms: Chemical shift and double resonance

5. Compare the different ionization methods, features of the spectra and application of mass spectroscopy.

6. Explain Bragg's law and its application in X-ray powder diffraction.

7. Define and classify errors. Add a note on theory of probability.

8. Describe the various factors affecting the fluorescent intensity of the molecule. Mention the principle of atomic absorption spectroscopy.

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