

**QP Code: 3291**

**Reg No: .....**

**M Pharm Part I Degree Examinations – June 2012**

**(Pharmaceutical Analysis)**

**Paper I - Analytical Techniques and Instrumentation**

**Time: 3 hrs**

**Maximum Marks: 100**

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

**Essays:**

**(2x20 =40)**

1. Write principle, theory and instrumentation of IR spectrophotometer. Give important pharmaceutical applications.
2. State the basic principle of NMR spectroscopy, add a note on how the shielding, deshielding and magnetic anisotropy, affect on the shift of NMR signals. Write brief note on splitting of NMR signals.

**Short Essays:**

**(6 x10=60)**

3. Derive Beers-Lambert's law and explain its limitations.
4. Explain Vandemeter equation in gas chromatography and add a note on derivatisation in GC.
5. State the principle of fluorimetry. Discuss various factors affecting fluorescence intensity. Outline important application of fluorimeter.
6. Write principle of mass spectrometry. Explain in detail about different types of ions produced in mass spectrometer.
7. Discuss theory, instrumentation and application of atomic absorption spectroscopy.
8. Distinguish between IR and FT-IR. Write a brief note on FT-IR.

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