Total No. of Questions : 8] [Total No. of Printed Pages : 2

Roll No

MPY–101

M. Pharm. (First Semester)
EXAMINATION, June, 2010

MODERN ANALYTICAL TECHNIQUES

(MPY – 101)

Time : Three Hours

Maximum Marks : 75

Note : Attempt any *five* questions. All questions carry equal marks. Draw neat labelled diagram wherever necessary.

1. (a) Describe the construction and working of UV-spectrophotometer and enlist its applications.
   (b) Write the details of Atomic Absorption Spectroscopy.
2. Write short notes on the following :
   (a) FTIR
   (b) X-ray Crystallography
   (c) Chemical shift and spin-spin coupling
3. (a) Explain the followings :
      (i) Metastable ion
      (ii) McLafferty rearrangement
      (iii) M + 1 and M + 2 peaks
   (b) Discuss the fragmentation rule in Mass Spectrometry.

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4. Explain various modes of separation in HPLC. What is the capacity, factor and resolution ? Give their significance in HPLC.
5. (a) Describe general principle and instrumentation of ORD.
   (b) Describe detectors used in Gas liquid chromatography.
6. Write theory, methods and applications of radioimmuno-assay technique.
7. Describe the principle and application of scanning and transmission electron microscopy.
8. What are the various thermal analysis methods ? How are they useful in quantitative and qualitative analysis ? Discuss essential features of TGA.