M. Pharm. First Semester (Pharmacology) (New)

35308 : MPL 101 T - Modern Pharmaceutical Analytical Techniques

P. Pages : 1 | AU - 0780

Time : Three Hours | Max. Marks : 75

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Notes : 1. All question carry equal marks.
2. Answer **any five** question.
3. Illustrate your answer necessary with the help of neat sketches.
4. Use of pen Blue/Black ink/refill only for writing the answer book.

1. Why C_{13} is NMR active and C_{12} is NMR inactive. Explain relaxation process; chemical shift; factors influencing chemical shift and Spin-Spin coupling in NMR spectroscopy. **15**

2. Discuss various types of electronic transitions with example for each and explain the effect of polarity of solvents on each type of transitions. **15**

3. Give principle and theory involved in mass spectroscopy. Discuss instrumentation for mass spectrophotometer with special emphasis on different types of ionization techniques. **15**

4. Write short note on **any three.** **15**

a) Differential thermal analysis. (DTA).

b) Differential scanning calorimetry (DSC).

c) Thermo Gravimetric Analysis (TGA).

d) X-ray diffraction (XRD).

5. Explain in detail of column chromatography. Write note on High performance liquid chromatography (HPLC). **15**

6. Discuss theory instrumentation and applications of :- **15**

a) Flame emission spectroscopy.

b) Atomic absorption spectroscopy.

7. Can pair of enantiomers be differentiated by I.R. spectroscopy-discuss. Give theory, principle and instrumentation for I.R. Spectroscopy. **15**

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