Roll No. | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 08

Ph.D in Faculty of Pharmacy

MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

M.Code : 77379

Time : 3 Hrs. Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carry FOURTEEN marks.

1. a) Explain Beer-Lambert's law with its limitations.

   b) Describe applications of UV spectroscopy.

2. a) Discuss the effect of hybridization and ring size on vibrational frequency in IR spectroscopy.

   b) Discuss the different modes of vibrations in IR spectroscopy.

3. a) Describe factors affecting fluorescence.

   b) What are the applications of spectrofluorimetry?

4. a) What is chemical shift? Discuss factors affecting chemical shift.

   b) Differentiate between 1HNMR and 13CNMR spectroscopy.

5. a) Write down principle of mass spectrometry. Discuss the isotopic peaks in mass spectrometry.

   b) Discuss the applications of mass spectrometry.

6. a) Describe principle and applications of gas chromatography.

   b) What are the advantages of HPLC over other types of chromatography?

7. a) Explain Bragg's law in X-ray crystallography.

   b) Discuss relaxation process in NMR spectroscopy.

8. Write a note on any Two :

a) Affinity chromatography.

b) Meta stable ions

c) Quenchers

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.