Roll No. | | | | | | | | | | | | | **Total No. of Pages : 01**

Total No. of Questions : 06

M.Pharmacy(Pharmacology) (2017 & Onwards) (Sem.–1)

MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Subject Code : MPL-101T

M.Code : 74675

Time : 3 Hrs. **Max. Marks : 75**

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE questions out of SIX questions.**
2. **Each question carries EQUAL marks.**

1. Discuss the theory of UV-visible spectroscopy including the concepts of energy level, transition types, chromophores and the laws of absorption spectroscopy with their limitations. 15

2. a. Explain the phenomenon of DEPT with appropriate examples. What is its importance? 7

   b. Write down the applications of IR spectroscopy. 8

3. a. Write down the salient features of GC detectors. Give principle and working of any two detectors in details. 8

   b. Give the principle and applications of flame spectroscopy. 7

4. a. Describe the principle and any two types of ionization methods of mass spectroscopy. 10

   b. Discuss the theory of fluorescence with Jablonski diagram. 5

5. Write short notes on the following : 3×5 = 15

   a. Applications of potentiometry.

   b. Principle and instrumentation of TGA.

   c. Modulated DSC and hyper DSC.

6. Write briefly on the following: 3×5=15

   a. Moving boundary electrophoresis.

   b. Types of crystals and applications of X-ray diffraction.

   c. Advantages and Disadvantages of Differential Thermal Analysis (DTA).

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.