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

Total No. of Questions : 06

M.Pharm. (Pharmaceutical Chemistry) (Sem.–1)

MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Subject Code : MPC-101T

M.Code : 74663

Date of Examination : 10-01-2023

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

INSTRUCTIONS TO CANDIDATES :

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

1. a) Explain the different types of electronic transitions involved in UV Spectroscopy.

   b) Give an account of qualitative and quantitative analysis using UV spectroscopy.

2. a) Discuss the static quenching *versus* dynamic quenching with examples.

   b) Discuss instrumentation and applications of spectrofluorimetry.

3. a) Brief outline of principles of FT-NMR and 13C NMR. What is chemical shift?

   b) Write principle and working conditions of Gel electrophoresis.

4. a) Explain the fundamental vibrations of the molecules in IR spectrophotometry.

   b) Write a comparative account on paper chromatography and thin layer chromatography.

5. a) Describe Bragg's Law and its application to pharmaceuticals.

   b) Give an account on APCI, FAB, MALDI and ESI.

6. a) With a neat diagram, explain the principle and instrumentation of GLC.

   b) Describe the principle and working of HPLC with a neat labeled diagram.

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.