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

Total No. of Questions : 06

M.Pharmacy(Pharmacology) (Sem.–1)

MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Subject Code : MPL-101T

M.Code : 74675

Date of Examination: 12-01-2023

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. (a) What is the principle of DSC? Describe the different types of DSC designs with the help of neat well-labeled diagrams.
   (b) Explain the applications of TGA with the help of a suitable TGA curve.
2. (a) Give the principle, working conditions, factors affecting separation and application of Capillary electrophoresis.
   (b) Write a note on different XRD methods.
3. (a) What are the principles of separation in GSC and GLC? Discuss various factors affecting separation by GC.
   (b) Give a detailed comparative account on TLC and HPTLC.
4. (a) Discuss various types of hard ionization techniques used in mass spectrometry. Enumerate their advantages and limitations.
   (b) How will you differentiate between n-pentanol and 3-pentanol on the basis of their mass 5 fragmentation patterns?
5. (a) Define the term chemical shift. Discuss various factors affecting it with the help of suitable examples.
   (b) Write note on ^{13}C-NMR.
6. (a) How does the polarity of solvent affect the UV absorption spectrum of a molecule? Give an example.
   (b) How will you differentiate between acetone and acetaldehyde on the basis of IR spectral data?
   (c) Give a descriptive note on various interferences possible in flame emission spectroscopy.

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.