

Total No. of Questions : 14]

M. PHARMACY DEGREE EXAMINATIONS, JULY - 2022**First Semester
PHARMACOLOGY****MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES**Time : **Three Hours**Maximum : **75 Marks****SECTION - A****Answer any FIVE Questions.****5x5 = 25 M**

1. Define the terms Isobestic point, Hypsochromic shift and Bathochromic shift.
2. Write a brief note on Flame atomizers used in Atomic absorption spectroscopy.
3. Briefly outline the principles of FT-NMR and ^{13}C - NMR.
4. Mention the qualitative and quantitative applications of Mass Spectroscopy.
5. Write a note on different methods of preparation of TLC plates.
6. Give a brief account on production of X-rays.
7. Write the principle and pharmaceutical applications of TGA.

SECTION - B**Answer any FIVE Questions.****5x10 = 50 M**

8. Discuss different modes of vibrational frequencies and factors affecting vibrational frequencies.
9. Write a detailed note on Spin-Spin coupling and Coupling constant.
10. Give an account on metastable ions, isotopic peaks and analyzers used in Mass Spectroscopy.
11. Describe the solvent delivery pumps and detectors used in High Performance Liquid Chromatography (HPLC).

12. Write the principle and applications of
 - a) Gel chromatography.
 - b) Ion exchange chromatography.
13. Explain the principle, working and applications of Potentiometry.
14. Write the applications of
 - a) DSC and DTA.
 - b) NMR Spectroscopy.

