

Enrolment Number										
------------------	--	--	--	--	--	--	--	--	--	--

Total No. of printed pages = 1

Monsoon, 2023

M. Pharm (Pharmaceutical Chemistry) Semester Examinations
MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Course Code: MPC101T

Full Marks – 75

Time – 03 hours

The figure in the margin indicates full marks for the questions.

- A. Answer all (50 words) (10×2=20)**
1. Mention some detectors used in HPLC.
 2. Define Chemical shift?
 3. Define Chromophore with suitable examples.
 4. FTIR doesn't have monochromator, mention why.
 5. Define base peak in mass spectrum.
 6. Mention the reason of TMS used as reference molecule in NMR.
 7. Mention the function of sweep generator in NMR?
 8. Define plate theory of chromatography.
 9. Explain isocratic elution.
 10. Write and explain the Van Deemter equation.
- B. Answer any seven (100 words) (7×5=35)**
1. Elaborate the interferences of Flame Photometry.
 2. Write a note on the vibrations of IR Spectroscopy.
 3. Explain electronic transitions of UV spectrophotometry.
 4. Explain how solvents are selected based on Stahl triangle
 5. Write a note on chemical shift, coupling and coupling constant.
 6. Write a note on potentiometric titration.
 7. Explain the principle and applications of DTA.
 8. Write a short note on Atomic Absorption Spectroscopy.
 9. With a neat diagram write the working of Photomultiplier Tube.
- C. Answer any two (200 words) (2×10=20)**
1. Explain the principle of NMR. With proper diagram explain the instrumentation NMR instrument. (3+7)
 2. With Jablonski diagram explain the principle of Fluorescence and Phosphorescence. Mention the factors affecting fluorescence. (4+6)
 3. Write the principle of paper chromatography. With neat diagram explain the different types of paper chromatography. (3+7)