

**Second Semester M. Pharm Degree Regular/Supplementary Examinations
May 2022**

M.Pharm (Pharmaceutical Chemistry)

Paper I - Advanced Spectral Analysis (MPC 201T)

Time: 3 Hours

Total Marks: 75

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Essays

(3x10=30)

1. Calculate the absorption maximum of 2,4-hexadiene, p-chloroacetophenone, o-xylene and a chemical compound of butadiene system.
2. Describe principle, instrumentation, and application of super critical fluid chromatography.
3. Write the general rules for predicting prominent peaks in a mass spectrum.

Short Notes

(9x5=45)

4. Differentiate IR with Raman spectroscopy
5. Write the principle and application of ELISA
6. Explain the principle and methodology employed in performing radioimmune assay of insulin
7. Write the principle and applications of Ion chromatography
8. Important features of the mass spectra of aliphatic aldehyde
9. NOESY technique with examples
10. Signals and their chemical shifts in the NMR spectra of paracetamol.
11. Explain the fragmentation pattern of 2-hexanone.
12. Principle and applications of Attenuated Total Reflection IR (ATR-IR).
