

QP CODE: 111331

Reg. No:.....

First Semester M.Pharm Degree Supplementary Examinations March 2020

M.Pharm (Pharmaceutical Chemistry)

Paper I: Modern Pharmaceutical Analytical Technique (MPA101T)

(2017 Scheme)

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. Describe in detail the principle behind ^{13}C -NMR. What are various factors determining chemical shift of a compound.
2. What are different types of ionization that are used in mass spectrometry. Add a note on the basic instrumentation required in mass spectrometry.
3. Describe in detail about TLC (thin layer chromatography) and explain various factors affecting resolution of components in TLC.

Short Notes

(9x5=45)

4. Explain time of flight analyser in mass spectrometry.
5. Explain principle, working and any three applications of high performance thin layer chromatography (HPTLC).
6. Describe thermogravimetric analysis (TGA) and write down its applications.
7. Fourier transform IR spectroscopy.
8. Theory and applications of UV visible spectroscopy.
9. X-ray powder diffraction technique.
10. What is coupling in NMR spectroscopy.
11. Thermal transitions.
12. NMR spectroscopy of an organic compound with molecular formula $\text{C}_3\text{H}_8\text{O}$ shows 3 proton shift peaks in the ratio of 6:1:1. What can you say about the structure of this compound.
