

QP CODE: 111350

Reg. No:.....

**First Semester M.Pharm Degree Regular/Supplementary Examinations
April 2023**

Paper I: Modern Pharmaceutical Analytical Techniques (MPT 101T)

(2019 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. Explain principle, instrumentation, interferences and applications of atomic absorption spectroscopy.
2. Explain the principle, instrumentation of FTIR and applications of IR spectroscopy.
3. Explain the principle, working of potentiometry and applications in pharmaceuticals.

Short Notes

(9x5=45)

4. Spin-Spin coupling and coupling constant in NMR spectroscopy.
5. Explain principle of ^{13}C NMR.
6. Explain principle, instrumentation of high performance liquid chromatography.
7. Applications of mass spectroscopy.
8. X-ray powder technique and rotating crystal technique.
9. Heat flux and power compensation designs.
10. Principle, working and applications of Thin Layer Chromatography.
11. Detectors used in gas chromatography.
12. Iso electric focusing and capillary electrophoresis.
