

QP CODE: 111350

Reg. No:.....

**First Semester M.Pharm Degree Supplementary Examinations
January 2021**

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. Describe the theory, instrumentation and applications of IR spectroscopy.
2. Explain the instrumentation of HPLC and its applications.
3. Explain the principle and instrumentations of UV – visible spectroscopy.

Short Notes

(9x5=45)

4. Atomic absorption spectroscopy.
5. Explain bioluminescence assays.
6. Explain x-ray powder technique.
7. Explain the principles of ¹³C NMR. Comment on the applications of proton and ¹³C NMR
8. Explain electron impact and chemical ionization techniques and its significance in mass spectroscopy.
9. Discuss about any two detectors employed in gas chromatography (G.C) Write the applications of G.C.
10. Explain the principle, instrumentation and applications of flame emission spectroscopy.
11. Explain the principle and instrumentation of differential scanning calorimetry.
12. Define and enumerate immunological assays. Write the application of each category.
