

QP CODE: 211329

Reg. No:.....

**Second Semester M. Pharm Degree Regular/Supplementary Examinations
February 2021**

M.Pharm (Pharmaceutical Analysis)

Paper I: Advanced Instrumental Analysis (MPA 201T)

Time: 3 Hours

Total Marks: 75

- Answer all Questions.
- Draw Diagrams wherever necessary.

Essays

(3x10=30)

1. Discuss in detail the principle and instrumentation of super critical fluid chromatography.
2. Explain in brief the various ionization techniques used in mass spectrometry.
3. Explain about nuclear magnetic double resonance and COSY with examples

Short Notes

(9x5=45)

4. Define the term chemical shift. Explain in brief the factors affecting chemical shift.
5. Mass fragmentation and its rules
6. Discuss in brief the principle of DART MS analysis and its applications in pharmaceuticals.
7. The application of HILIC techniques in liquid chromatography.
8. Role of HPLC in chiral analysis of pharmaceuticals
9. NOESY technique.
10. Enlist the applications of size exclusion chromatography.
11. Explain any two detectors used in gas chromatography.
12. Explain in brief the principle of separation in affinity chromatography
