

QP CODE: 211329

Reg. No:.....

**Second Semester M. Pharm Degree Supplementary Examinations
January 2020**

M.Pharm (Pharmaceutical Analysis)

Paper I: Advanced Instrumental Analysis (MPA 201T)

(2017 Scheme)

Time: 3 Hours

Total Marks: 75

- Answer all Questions.
- Draw Diagrams wherever necessary.

Essays

(3x10=30)

1. Elaborate the principle of mass spectrometry and discuss about the tandem mass spectrometry.
2. Explain the principle, instrumentation and applications of C13 nuclear magnetic resonance (NMR) and what are the advantages of 2D NMR over 1D NMR
3. Explain the system suitability parameters of a high performance liquid chromatography

Short Notes

(9x5=45)

4. Describe any two detectors used in gas chromatography.
5. Principle involved in high performance liquid chromatography and also discuss about gel permeation chromatography.
6. Methods of capillary electrophoresis.
7. Spin-spin coupling.
8. Affinity chromatography.
9. Working principle of quadrupole mass analyzer.
10. Meta stable and isotopic peaks in mass spectrophotometry.
11. Principle involved in ion exchange chromatography.
12. Pharmaceutical applications of high performance thin layer chromatography
